



**2014 - 2020**  
Towards the new  
ENI CBC Med Programme  
Vers le nouveau  
Programme IEV CT Med  
نحو برنامج ENI CBC Med جديد

CROSS-BORDER COOPERATION WITHIN THE EUROPEAN NEIGHBOURHOOD INSTRUMENT (ENI)

# Mediterranean Sea Basin Programme



## Strategic Environmental Assessment

- screening procedure -

## PRELIMINARY REPORT



Programme funded by the  
**EUROPEAN UNION**



2014-2020  
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# Strategic Environmental Assessment - screening procedure - PRELIMINARY REPORT

## Responsible Authority

Autonomous Region of Sardinia – Italy  
Environmental Department  
S.E.A. Service

## Proceeding Authority

Autonomous Region of Sardinia – Italy  
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## LIST OF ACRONYMS

ARLEM - Euro-Mediterranean Regional and Local Assembly  
BO - Branch Office  
CBC - Cross Border Cooperation  
CPMR - Conference of Peripheral Maritime Regions  
EC - European Commission  
EIA – Environmental Impact Assessment  
ENI - European Neighbourhood Instrument  
ENP - European Neighbourhood Policy  
ENPI - European Neighbourhood and Partnership Instrument  
EU – European Union  
ICZM – Integrated Coastal Zone Management  
IMC - Inter-Mediterranean Commission  
IPRs - Intellectual Property Rights  
JMC - Joint Monitoring Committee  
JOP - Joint Operational Programme  
JTS - Joint Technical Secretariat  
MA – Managing Authority  
MSME – Micro Small Medium Enterprises  
MS – Member State  
MSSD - Mediterranean Strategy for Sustainable Development  
NEET - Not in Education, Employment or Training  
NTS - Non-Technical Summary  
OO – Overarching Objective  
PSC - Projects Selection Committee  
SEA – Strategic Environmental Assessment  
SME – Small Medium Enterprises  
TO - Thematic Objective  
UfM - Union for the Mediterranean

# Chapter 1



## Introduction and law requirements

## 1.1 European Neighbourhood Policy (ENP) and European Neighbourhood Instrument (ENI)

The objective of the **European Neighbourhood Policy (ENP)** is to share the benefits of the EU's 2004 enlargement with neighbouring countries. It is also designed to prevent the emergence of new dividing lines between the enlarged EU and its neighbours. The vision is that of a ring of countries, drawn into further integration, but without necessarily becoming full members of the European Union. The policy was first outlined by the European Commission on March 2003. The countries covered include all of the Mediterranean shores of Africa and Asia, as well as the European CIS states (with the exception of Russia and Kazakhstan) in the Caucasus and Eastern Europe.

The **Euro-Mediterranean Partnership** or **Barcelona Process** is a wide framework of political, economic and social relations between member states of the EU and countries of the Southern Mediterranean. It was initiated on 27–28 November 1995 through a conference of Ministers of Foreign Affairs, held in Barcelona. Besides the 27 member states of the European Union, the remaining "Mediterranean Partners" are all other Mediterranean countries except Libya (which has had 'observer status' since 1999). Since the establishment of the **European Neighbourhood and Partnership Instrument (ENPI)** in 2007 the **Euro-Mediterranean Partnership** initiative will become fully a part of the wider European Neighbourhood Policy. The Association Agreements signed with the Mediterranean states aim at establishing an Euro-Mediterranean free trade area. **ENPI** is a financial instrument that covers the ENP countries. ENPI therefore merges the former **MEDA** (as all of its current beneficiaries are ENP states) and the European part of the former **TACIS** structure.<sup>[2]</sup> The **ENPI Info Centre** was launched in January 2009 by the European Commission to highlight the relationship between the **EU and its Neighbours**.

The **European Neighbourhood Instrument (ENI)**, effective from 2014 to 2020, replaces the European Neighbourhood and Partnership Instrument –**ENPI**. The **European Neighbourhood Instrument (ENI)** came into force in 2014. It is the financial arm of the European Neighbourhood Policy, the EU's foreign policy towards its neighbours to the East and to the South. It has a budget of €15.4 billion and provides the bulk of funding through a number of programmes.

The six ENI targets are:

- (1) Promoting human rights and fundamental freedoms, the rule of law, equality, sustainable democracy, good governance and a thriving civil society;
- (2) Achieving progressive integration into the EU internal market and enhanced co-operation including through legislative approximation and regulatory convergence, institution building and investments;
- (3) Creating conditions for well managed mobility of people and promotion of people-to-people contacts;
- (4) Encouraging development, poverty reduction, internal economic, social and territorial cohesion, rural development, climate action and disaster resilience;
- (5) Promoting confidence building and other measures contributing to security and the prevention and settlement of conflicts;
- (6) Enhancing sub-regional, regional and Neighbourhood wide collaboration as well as Cross-Border Cooperation;

This cooperation instrument is still managed by DG Development and Cooperation - EuropeAid, which turns decisions taken on a political level into actions on the ground. ENPI funding approved for the period 2007-2013 was €11.2 billion.

The 16 ENI partner countries are:

- in the South: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia, ,
  - in the East: Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine.
- With Russia, the EU has a separate Strategic Partnership.



Fig. 1.1 - The European Neighbourhood Policy – ENP <sup>1</sup>

<sup>1</sup> Source: <http://www.enpi-info.eu/ENI>

## 1.2 Cross Border Cooperation (CBC)

The EU support for cross-border cooperation on its external borders under ENI for the period 2014 - 2020 has been set out in Article 9 of the ENI Regulation. **Cross-border cooperation (CBC)** on the external borders of the EU is a key priority both in the European Neighbourhood Policy and in the EU's strategic partnership with Russia. CBC under the European Neighbourhood Instrument (ENI) will build on CBC under its predecessor, the ENPI.

**Cross Border Cooperation (CBC) supports sustainable development along the EU's external borders, helps reducing differences in living standards and addressing common challenges across these borders. It was first recognised as such in the European Neighbourhood and Partnership Instrument (ENPI) regulation for the period 2007-2013.**

**This was confirmed for the period 2014-2020 in the European Neighbourhood Instrument (ENI) regulation adopted in March 2014.**

CBC promotes cooperation between an EU country and a neighbourhood country sharing a land border or sea crossing. Funding can also be provided for a programme between several EU and neighbourhood countries which, for example, are part of the same sea basin.

CBC is modelled on the principles of the EU's territorial cooperation, but adapted to the specificities of the EU's external relations. What characterises the CBC programmes and makes them a unique cooperation mechanism is a strong commitment and ownership by the participating countries based on:

- balanced partnership between the participating countries on either side of a border: Member States and Neighbouring countries have an equal say in the programme decisions and projects only receive funding if implemented by partners on both sides;
- management entrusted to a local – or national – authority in a member state, jointly selected by all countries participating in the programme;
- common legal framework and implementation rules: For the future ENI period, rules established for the ENPI CBC have been simplified and adapted based on previous experience. See the ENPI and ENI Programming documents and the ENPI and ENI CBC Implementing rules.

CBC has three main objectives:

- promoting economic and social development in border areas;
- addressing common challenges (environment, public health, safety and security);
- putting in place better conditions for persons, goods and capital mobility.

A budget of €950.5 million made of contributions from the European Regional Development Fund and the ENPI budget was earmarked for CBC for the period 2007-13. The CBC budget for the period 2014-2020 is currently under discussion with Member States and should be known by end 2014. In parallel, the drafting of future individual programmes has started and regional and local partners on both sides of a border regularly meet to identify on the programme needs and objectives such as fields of intervention, managing structures etc.

For the ENPI period 2007-2013, the following 13 programmes have been funded:

### Land-Border programmes

- The Estonia-Latvia-Russia Programme
- The Hungary-Slovakia-Romania-Ukraine Programme
- The Karelia-Russia Programme
- The Kolarctic-Russia Programme
- The Latvia-Lithuania-Belarus Programme
- The Lithuania-Poland-Russia Programme
- The Poland-Belarus-Ukraine Programme

- The Romania-Ukraine-Republic of Moldova Programme
- The South East Finland-Russia Programme

#### Sea-crossing programmes

- The Italy-Tunisia Programme

#### Sea-basin programmes

- The Baltic Sea Region Programme
- The Black Sea Programme
- The Mediterranean Sea Programme

The EU funded INTERACT ENPI project is supporting these Programmes by providing technical assistance: **Interact ENPI** offers a platform where CBC implementers can share expertise and good practices. In addition to giving advice to the joint managing authorities of individual programmes, it organises seminars for the CBC community, publishes studies and manuals and is a forum for 'virtual' discussions. INTERACT ENPI is supported by Finland's Ministry of Employment and Economy and is based in Turku.

**17 programmes have been preliminarily identified for the period 2014-2020.** These programmes are expected to start in the course of 2015, once the drawing up of their individual programme documents is finalised.

## 1.3 ENI CBC Mediterranean Sea Basin Programme

The multilateral cross-border cooperation "Mediterranean Sea Basin Programme" is part of the new European Neighbourhood Policy and of its financing instrument for the 2007-2013 period: it includes the European Union and partner countries regions placed along the shores of the Mediterranean Sea.

The Joint Monitoring Committee, a body composed of 14 countries – Algeria, Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Palestine, Portugal, Spain and Tunisia – is responsible for designing the strategy and implementing modalities of the new Programme.

The management of the Programme is ensured by joint structures, namely: the Joint Monitoring Committee, the Projects Selection Committee, the Joint Managing Authority, the Joint Technical Secretariat, and two Branch Offices respectively located in Valencia (Spain) and Aqaba (Jordan).

The new Programme has been structured in two overarching objectives articulated in four thematic objectives and eleven priorities.

One of the biggest challenges of the cooperation area is to create economic opportunities and jobs to reduce high rates of unemployment: the thematic objective entitled '*Business and SMEs development*' seeks to positively contribute to this situation through the support to start-up enterprises and the enhancement of Euro-Mediterranean value chains and clusters. Diversification of tourism into new segments and niches is also part of this first objective.

Innovation is a major driver for competitiveness and productivity of Mediterranean economies. The objective referring to '*Support to education, research, technological development and innovation*' focuses on technological transfer, commercialisation of research results and links between industry and research. '*Promotion of social inclusion and fight against poverty*' represents a new topic of the Programme compared to the current one. Issues to be addressed concern the support to the NEETS category (Not in Education, Employment or Training) as well to actors from the social and solidarity economy.



'Environmental protection, climate change adaptation and mitigation' continues to be a major field of intervention of the Programme. Efficiency in water, waste and energy management as well as conservation of coastal areas are set to contribute to a more sustainable Mediterranean region.

'People to people cooperation' shall be considered as a modality to achieve the four thematic objectives mentioned above while 'institutional capacity building' will act as a transversal priority.

Over € 209 million have been granted by the European Union to the ENI CBC Mediterranean Sea Basin Programme for the period 2014-2020.

According to the Programming document, a fifth of the financial allocation for Cross-Border Cooperation (CBC) under the European Neighbourhood Instrument (ENI) total budget - € 1 billion - is dedicated to the Mediterranean Sea Basin Programme. This makes the Programme the largest one from a financial point of view out of 16 other programmes to be implemented with Partner Countries to the East and South of EU's external borders.

### **Core eligible area**

The eligible territories per country<sup>2</sup> are:

**Algeria:** Tlemcen, Ain Temouchent, Oran, Mostaganem, Chlef, Tipaza, Alger, Boumerdes, Tizi Ouzou, Bejaia, Jijel, Skika, Annaba, El Tarf

**Cyprus:** the whole country

**Egypt:** Marsa Matruh, Al-Iskandanyah, Al Buhayrah, Kafr ash Shaykh, Ad Daqahliyah, Dumyat, Ash Sharquiyah, Al Isma'iliyah, Bur Sa'id

**France:** Corse, Languedoc-Roussillon, Provence-Alpes-Côte d'Azur

**Greece:** Anatoliki Makedonia - Thraki, Kentriki Makedonia, Thessalia, Ipeiros, Ionia Nisia, Dytiki Ellada, Sterea Ellada, Peloponnisos, Attiki, Voreio Aigaio, Notio Aigaio, Kriti

**Israel:** the whole of the country

**Italy:** Basilicata, Calabria, Campania, Lazio, Liguria, Puglia, Sardegna, Sicilia, Toscana

**Jordan:** Irbid, Al-Balga, Madaba, Al-Karak, Al-Tafilah, Al-Aqaba

**Lebanon:** the whole of the country

**Libya<sup>3</sup>:** Nuquat Al Kharms, Al Zawia, Al Aziziyah, Tarabulus, Tarunah, Al Khons, Zeleitin, Misurata, Sawfajin, Surt, Ajdabiya, Banghazi, Al Fatah, Al Jabal Al Akhdar, Damah, Tubruq

**Malta:** the whole country

**Morocco:** Oriental, Taza-Al Hoceima-Taounate, Tanger-Tetouan

**Palestine:** the whole of the country

**Portugal:** Algarve

**Spain:** Andalucia, Catalonia, Comunidad Valenciana, Murcia, Islas Baleares, Ceuta, Melilla

**Syria<sup>4</sup>:** Al Ladhqiyan, Tartus

**Tunisia:** Medenine, Gabes, Sfax, Mahdia, Monastir, Sousse, Nabeul, Ben Arous, Tunis, Ariana, Bizerte, Beja, Jandouba

**Turkey:** TR21 (Tekirdağ, Edirne, Kırklareli), TR22 (Balıkesir, Çanakkale), TR31 (İzmir), TR32 (Aydın, Denizli Muğla), TR61 (Antalya, Isparta, Burdur), TR62 (Adana, Mersin), TR63 (Hatay, Kahramanmaraş, Osmaniye)

**United Kingdom:** Gibraltar

### **Adjoining regions**

**Egypt:** Al Gharbiyah, Al Minufiyah, Al Qalyubiyah, As Suways

**France:** Rhône-Alpes, Auvergne, Midi-Pyrénées

**Greece:** Dytiki Makedonia

<sup>2</sup> Programming document for EU support to ENI Cross-Border Cooperation (2014-2020), Annex to Commission Implementing Decision of 8.10.2014, C(2014) 7172 final.

<sup>3</sup> Due to an administrative reform, the list of Libya's regions, corresponding to the one in the Programming Document, may differ from the map.

<sup>4</sup> At the time of approval of the Joint Operational Programme, CBC cooperation between the EU and Syria is suspended.

**Italy:** Molise, Abruzzo, Marche, Umbria, Emilia Romagna, Piemonte

**Jordan:** Al-Mafraq, Ma'an, Amman, Ajlun, Jarash, Az Zarqa'

**Portugal:** Alentejo

**Spain:** Extremadura, Castilla La Mancha, Aragon

**Syria:** Hama, Idlib, Homs

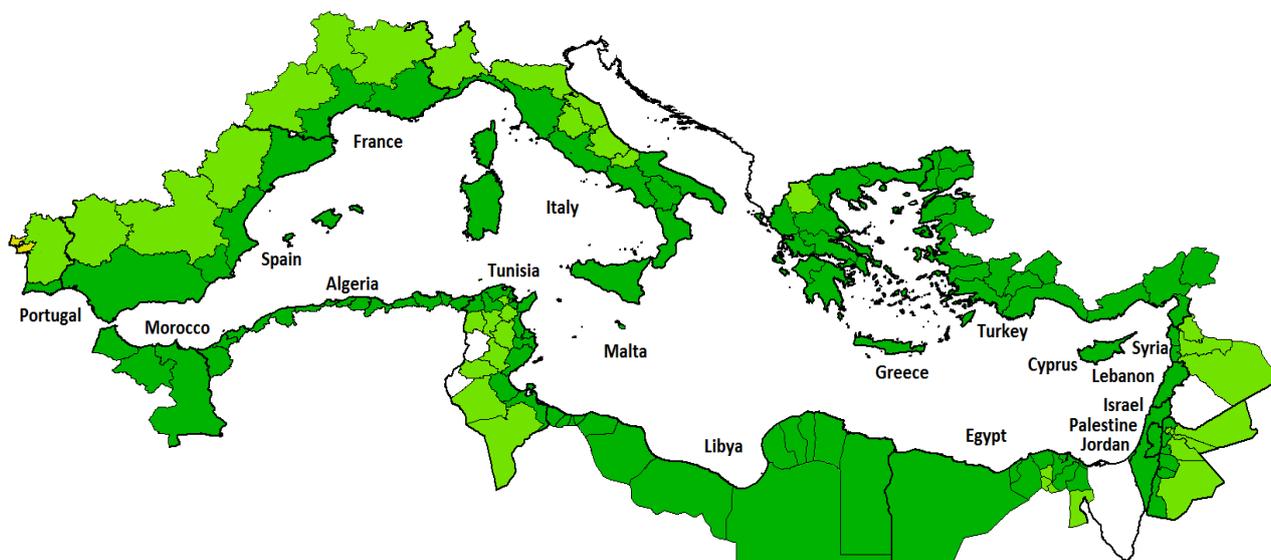
**Tunisia:** Tataouine, Kebili, Gasfa, Sidi Bouzid, Kairouan, Zaghuan, Manouba, Le Kef, Siliana

**Major social, economic and cultural centres**

(article 8 par. 3<sup>1</sup> of Regulation (EU) No 232/2014 establishing a European Neighbourhood Instrument):

**Portugal:** Lisbon

- Eligible regions
- Adjoining regions
- Major centres



**Fig. 1.2 - Map of the Cooperation area**<sup>5</sup>

<sup>5</sup> Mediterranean Sea Basin Programme 2014-2020

## 1.4 Strategic Environmental Assessment

The requirement to carry out a Strategic Environmental Assessment (SEA) is based on the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment adopted by the Council of the European Union on 27 June 2001<sup>6</sup> (further in the text – SEA Directive). The purpose of the SEA Directive is to “provide for a higher level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development”.

The SEA Directive applies to a wide range of **public** plans and programmes (e.g. land use, transport, energy, waste and agriculture plans) but does not include policies. It is in force since 2001 and should have been transposed by July 2004.

Plans and programmes in the sense of the SEA Directive must be prepared or adopted by an **authority** (at national, regional or local level) and be **required** by legislative, regulatory or administrative provisions.

A SEA is **mandatory** for plans/programmes which:

- are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste/ water management, telecommunications, tourism, town & country planning or land use and which **set the framework** for future development consent of projects listed in the EIA Directive.

or

- have been determined to require an assessment under the Habitats Directive.

Broadly speaking, for the plans/programmes not included above, the Member States have to carry out a screening procedure to determine whether the plans/programmes are likely to have significant environmental effects. If there are significant effects, a SEA is needed. The screening procedure is based on criteria set out in Annex II of the Directive.

The SEA and EIA procedures are very similar, but there are some **differences**:

- the SEA requires the **environmental authorities** to be consulted at the screening stage;
- **scoping** (i.e. the stage of the SEA process that determines the content and extent of the matters to be covered in the SEA report to be submitted to a competent authority) is obligatory under the SEA;
- the SEA requires an assessment of reasonable **alternatives** (under the EIA the developer chooses the alternatives to be studied);
- under the SEA Member States must **monitor** the significant environmental effects of the implementation of plans/programmes in order to identify unforeseen adverse effects and undertake appropriate remedial actions;
- the SEA obliges Member States to ensure that environmental reports are of a sufficient **quality**.

The “**INTERACT ENPI Guidance note on Strategic Environmental Assessment in the context of ENI CBC**” underlines some important points related to this kind of programmes. Article 4 (e) (viii) of the draft ENI CBC Implementing Rules requires that “*information on fulfilment of regulatory requirements laid down in Directive 2001/42/EC*” shall be included in the Joint Operational Programme (JOP) as part of the programme implementation description.

The SEA is an integral part of the programming exercise. The process shall be started in parallel with the programme strategy development and will, whenever relevant, influence the content of the JOP.

An environmental assessment according to the SEA Directive involves the following steps:

- identification of the environmental authorities in all countries;
- decision on whether a SEA is required or not;

<sup>6</sup> OJ L 197, 21.7.2001

And, if a SEA is required:

- determination of SEA scope and preparation of an environmental report;
- consultations of environmental authorities and the public;
- inclusion of environmental report conclusions and consultations results in the JOP;
- adequate monitoring of recommendations;
- informing consulted authorities and the public about the programme approval .

The SEA Directive does not specifically address cross-border cooperation programmes with third countries. It is the responsibility of the Member State (MS) hosting the Managing Authority (MA) to define, according to its national legislation, how to carry out a SEA for the whole programme in accordance with the SEA Directive. In this case the Joint Managing Authority of the Programme the Autonomous Region of Sardinia.

The aim of the above note is to provide MAs with an interpretation of the SEA Directive in the context of ENI CBC, including the necessary legal steps to conduct the SEA process and the different actors to be involved in these steps. The note illustrates the theory with a few examples from the period 2007-2013. Finally, the note provides the minimum information required by DG ENV when programmes will be submitted to the European Commission (EC) for adoption.

The full SEA process is not compulsory for all ENI CBC programmes. The note also guides programmes which do not have significant impact on the environment and for which a lighter process, via screening, is required.

Even though the Member State hosting the MA remain responsible for the SEA process, it is important, whenever possible, to involve all countries concerned by a programme. For this reason, environmental authorities in participating countries should be identified. Furthermore, the Italian SEA legislation provide for an SEA competent Authority that have to examine all the documents elaborated in the SEA process and issue a statement on the overall environmental compatibility of the plan/program, or in the case of a screening procedure, whether the plan/program shall be subject to SEA. In this case the SEA Competent Authority is the SAVI - Servizio sostenibilità ambientale e sistemi informativi della Regione Sardegna (Service for Environmental sustainability and Information System) of Sardinia Regional Authority.

In the ENI CBC context, article 6.3 of the SEA Directive requiring identification of the environmental authorities in the Member State, can be interpreted as follows: *the participating countries "shall designate the authorities to be consulted which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes."*

Some Partner Countries involved in ENI CBC programmes are able to adapt the SEA Directive to their national legislation. For others, the participation in the SEA exercise is less obvious and will be determined on a case-by-case basis in each programme.

Concretely, it is suggested 1) that the MA cooperates with the National Authority in participating countries to identify relevant environmental authorities; 2) to look into the international treaties regarding the SEA procedure to which CBC partner countries are parties, i.e., the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and the *Protocol on Strategic Environmental Assessment to the UNECE Espoo Convention (SEA protocol)*<sup>7</sup>.

In all cases, the MS hosting the MA is responsible for determining whether a SEA is required or not according to its national legislation. In the specific context of CBC, it is recommended to involve and consult all countries concerned at an appropriate level.

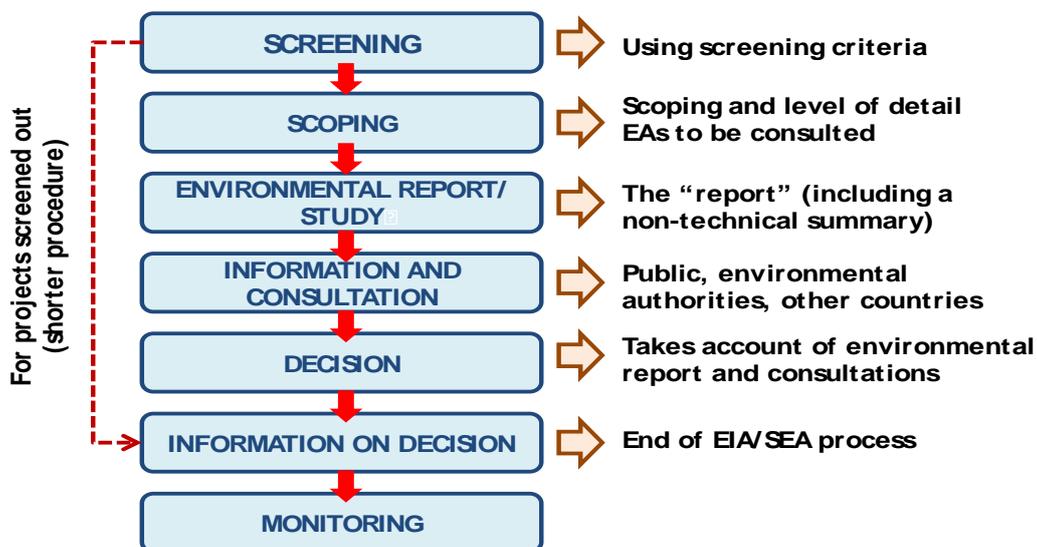
Article 3 of the SEA Directive (especially 3.2 and 3.4 in this context) sets the scope when a SEA should be carried out for a particular programme. Based on these requirements:

<sup>7</sup> List of countries which are party to the SEA protocol:

[https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-4-b&chapter=27&lang=en](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4-b&chapter=27&lang=en)

- 1) An environmental assessment is automatically required for Programmes which have significant environmental effects in accordance with the provisions of article 3 must carry out a full SEA . Programmes including 'projects' (i.e. projects with work components, covered under EIA Directive 2011/92/EU) in the sectors mentioned in article 3.2 as well as projects having significant impact on the environment in other sectors (article 3.4) must carry out a full SEA. This will be the case for ENI CBC programmes including Large Infrastructure Projects.
- 2) A screening procedure should determine whether a SEA should be carried out or not  
A screening procedure will be required for all programmes not falling under (1) above, i.e. programmes concentrated on soft activities (such as transfer of know-how and good practices) that are not expected to have a significant impact on the environment notwithstanding the sectors mentioned in article 3.2 of the SEA Directive.

The MA has to carry out a screening procedure whenever possible in consultation with all participating countries' environmental authorities to determine whether the programmes will have significant environmental effects. The screening should be adapted to the particular programme and countries' needs; MS hosting the MA are responsible for organising the screening according to its national legislation. The screening procedure is based on criteria set out in Annex II of the SEA Directive. For certain ENI CBC programmes, some of these criteria will not be applicable, leading to a “light” screening. If the screening concludes that a SEA is not necessary based on the criteria of Annex II, a statement confirming that the SEA is not applicable and a note on the screening conclusions explaining the reasons for not requiring a SEA need to be published and included in the JOP.



**Fig. 1.3 - The environmental assessment procedure <sup>8</sup>**

The SEA ensures that the environmental issues are taken into account during the preparation of a plan and programme before its adoption. It also promotes integrating environmental considerations into the programme objectives and priorities. During the EC inter-service consultation before adopting the JOP, DG ENV will verify that the following information is included in the Joint Operational Programme:

- 1) **For programmes that following a screening do not require a full SEA**
  - A note prepared by the MA explaining the reasons for not requiring an environmental assessment
  - A statement signed by the MS hosting the MA informing that the SEA is not applicable, following the national legislation of the given MS
- 2) **For programmes conducting a full SEA**

<sup>8</sup> Source: INTERACT ENPI Guidance note on Strategic Environmental Assessment in the context of ENI CBC

- The non-technical summary (NTS) of the information provided in the environmental report, as foreseen by Annex I (j) of the SEA Directive

<b>Which actions and which actors to involve in the context of ENI CBC programmes?</b>		
<b>Stages of SEA</b>	<b>Decisions to be taken</b>	<b>Actions and actors</b> (possible scenario always in line with the national legislation of the Member State hosting the MA)
<b>Decision on the need for a SEA</b>  Will the programme have significant environmental effects?	<b>A.</b> Screening to determine whether the programme will have significant environmental effects is required <sup>9</sup>  <b>or</b> <b>B.</b> SEA is clearly required according to articles 3.2 or article 3.4. of the SEA Directive	Managing Authority (MA) leads the process with possible assistance from an environmental expert.  The participating countries' National Authorities should assist the MA to identify their respective environmental authorities (EA).  The MS hosting the MA is responsible for determining whether a SEA is required or not according to its national legislation. In the specific CBC context, it is recommended to involve and consult all participating countries concerned at an appropriate level. This consultation is binding for countries that have adopted international treaties regarding SEA.

Tab. 1.4 – ENI CBC and SEA: Actions and actors<sup>10</sup>

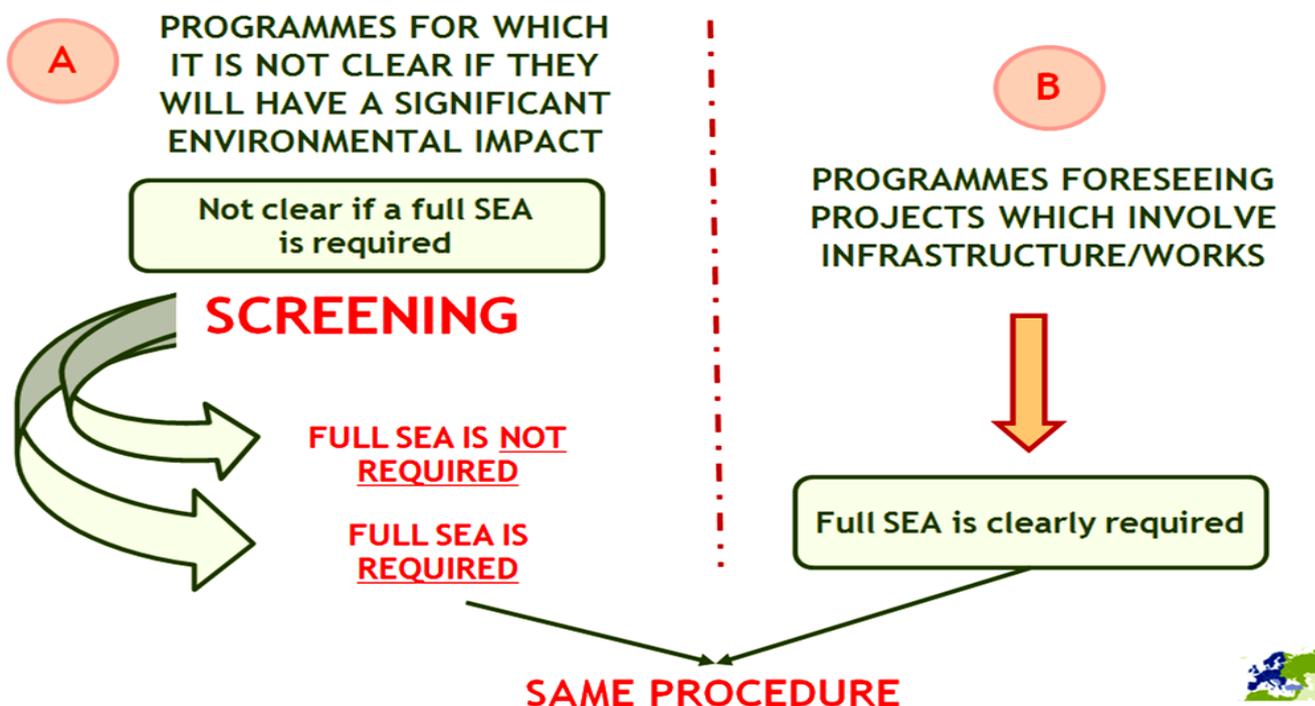


Fig. 1.5 – ENI CBC and SEA: Stages<sup>11</sup>

<sup>9</sup> For this purpose, and in all cases, the relevant criteria set in Annex II of the SEA Directive should be taken into account, in order to ensure that plans and programmes with likely significant effects on the environment are covered

<sup>10</sup> Source: Annex to the INTERACT ENPI guidance note on the SEA

<sup>11</sup> Source: INTERACT ENPI Guidance note on Strategic Environmental Assessment in the context of ENI CBC)

Stages of SEA	Decisions to be taken	Actions and actors (possible scenario always in line with the national legislation of the Member State hosting the MA)
<b>A. SCREENING: Is a SEA REQUIRED?</b>		
<p><b>Screening</b></p> <ul style="list-style-type: none"> <li>- when the programme does not meet the criteria set out in article 3.2 of the SEA Directive (or the equivalent in national legislation) and</li> <li>- when the programme “sets the framework for future development consent of projects” which are likely to have a significant environmental impact (article 3.4 of the Directive).</li> </ul>		<p>The MA/MA expert consults participating countries’ environmental authorities (article 3.(6)).</p> <p>The expert conducts the screening based on the criteria set out in annex II of the Directive and presents it to the MA and Joint Programming Committee (JPC) members for a final decision.</p>
<p><b>Option 1</b></p> <p>The screening process confirms that there are likely to be significant environmental effects and a SEA is required: for further guidance on the SEA process go to table B.</p>		
<p><b>Option 2</b></p> <p>The screening confirms that it is unlikely there will be significant environmental effects and therefore a SEA is not required: <b>a note is published on the screening conclusions and the reasons for not requiring an environmental assessment</b> (article 3.7 of the Directive).</p>		<p>The MA / MA expert prepares a note on the screening conclusions and the reasons for not requiring an environmental assessment.</p> <p>The MS hosting the MA or the MA prepares an official statement confirming that the SEA is not applicable.</p>
<p><b>An official statement is published</b> confirming that the SEA is not applicable.</p>		<p>The note and the official statement are made available to the public and consulted institutions in the participating countries by the MA: programme website and/or other means of communication.</p>
<b>B. SEA IS REQUIRED</b>		
<p><b>Determine the scope and level of detail of the environmental report.</b></p>	<p>Decide on the level of detail required, the data to collect, the methods to be used for developing the environmental report, identifying the relevant environmental stakeholders / public to be consulted.</p>	<p>The MA leads the process and is supported by the participating countries' National Authorities and the environmental expert.</p> <p>Environmental authorities of all participating countries are consulted on the level of detail required for the report.</p>
<p><b>The environmental report</b> (article 5.1 of the Directive and its annex 1) <b>including a non-technical summary (NTS).</b></p>	<p>Approval of the report by the MA/ JPC.</p>	<p>The MA expert prepares an environmental report.</p> <p>Based on the report, the expert prepares the non-technical summary.</p> <p>The report and the summary are approved by the MA/ JPC.</p>
<p><b>Inform and consult the public and the relevant environmental stakeholders/authorities on the environmental report and on the draft Joint Operational Programme (programme strategy)(JOP).</b></p>	<p>Decide on how to consult, whom to consult, the time frame, which documents to translate (e.g., NTS with the JOP section on objectives and priorities).</p>	<p>Responsibility of the National Authorities and environmental authorities of each country participating in the JPC with the involvement of the MA expert.</p>

Stages of SEA	Decisions to be taken	Actions and actors (possible scenario always in line with the national legislation of the Member State hosting the MA)
<p><b>Incorporate the conclusions of the environmental report and the opinions expressed during the consultations in the JOP.</b></p>	<p>Decide how it influences the content of the JOP: e.g., refine the programme priorities, the eligible activities, criteria for project selection, include impact mitigation measures.</p>	<p>The MA expert assisting the MA collects comments during the consultations and prepares a proposal for amending the JOP.</p> <p>The MA proposes changes to the JOP for the JPC decision.</p> <p>The MA integrates the approved changes in the JOP.</p>
<p><b>A statement summarising how these environmental considerations and the opinions expressed have been integrated into the programme and the reasons for choosing the strategy in light of alternatives.</b></p>		<p>The MA expert prepares the statement.</p> <p>The MA includes the statement in the JOP.</p>
<p><b>Monitoring</b></p>	<p>Decide on the measures for monitoring the significant environmental effects of programme implementation.</p>	<p>The MA expert prepares a monitoring plan, which is included in the JOP.</p> <p>The MA follows the plan during implementation of the JOP and implements the necessary monitoring measures.</p>
<p><b>Once adopted, each programme publishes information on the SEA to the authorities and the public.</b></p>	<p>The JOP, the statement and the monitoring measures are posted on the internet or disseminated to the environmental authorities and public.</p>	<p>The MA publishes the approved JOP together with the statement and monitoring measures on the programme website and/or using other means of communication, e.g. email to the concerned authorities and the public.</p>

**Tab. 1.6– ENI CBC and SEA: Actions and actors**<sup>12</sup>

<sup>12</sup> Source: Annex to the INTERACT ENPI guidance note on the SEA



2014-2020  
Towards the new  
ENI CBC Med Programme  
Vers le nouveau  
Programme IEV CT Med  
نحو برنامج ENI CBC Med جديد



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## Strategic Environmental Assessment - screening procedure

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## Chapter 2



## Environmental issues

## 2.1 Environmental components

### 2.1.1 Air and climate

Air pollution is an important issue in many parts of the Mediterranean basin, with particular reference to the production of greenhouse gases due to climate change.

Air pollutants may be categorised as follows:

- those directly emitted to the atmosphere (e.g. from vehicle exhaust or chimneys),
- those formed in the atmosphere (e.g. from the oxidation and transformation of primary emissions).

The following maps represent for the countries in the northern rim of the Mediterranean sea, the concentration of four main air pollutants:

- Particulate matter (PM<sub>10</sub>), which is either directly emitted to the atmosphere, or formed in the atmosphere. Primary PM originates from natural sources including volcanic ash, sea salt and pollen, or from anthropogenic sources such as domestic heating, incineration and fuel combustion for vehicles.
- Nitrogen oxides (NO<sub>x</sub>), mainly generated from high temperature combustion processes such as those occurring in the power plants.
- Ozone (O<sub>3</sub>), formed from complex chemical reactions following emissions of precursor gases such as nitrogen oxides. Transport and energy are the main sectors responsible for emissions of NO<sub>x</sub>, followed by industry.
- Benzo(a)pyrene (BaP), mainly generated through domestic home-heating, in particular wood- and coal-burning, waste-burning, coke and steel production, and road traffic.

The maps highlight a high concentration of O<sub>3</sub> in the coastal zones of Italy, Spain and France, often exceeding the 120 µg/m<sup>2</sup>. Highest values of PM<sub>10</sub> are mostly concentrated in the Northern of Italy and are also diffused in Turkey. NO<sub>2</sub> presents low concentration values, minor than 20 µg/m<sup>2</sup>, along the Spanish and French shores and highest values mainly in the Northern of Italy. Instead highest concentration of BaP are not concentrated along the Mediterranean shores, but are mainly diffused in the Northern European countries.

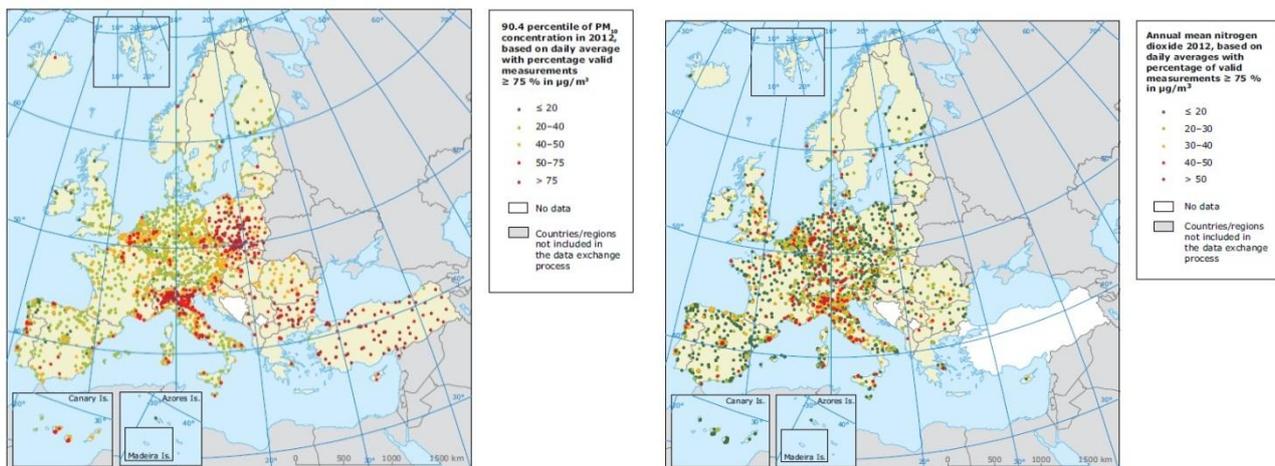


Fig. xx Concentration of PM<sub>10</sub> and concentration of NO<sub>2</sub> (2012)

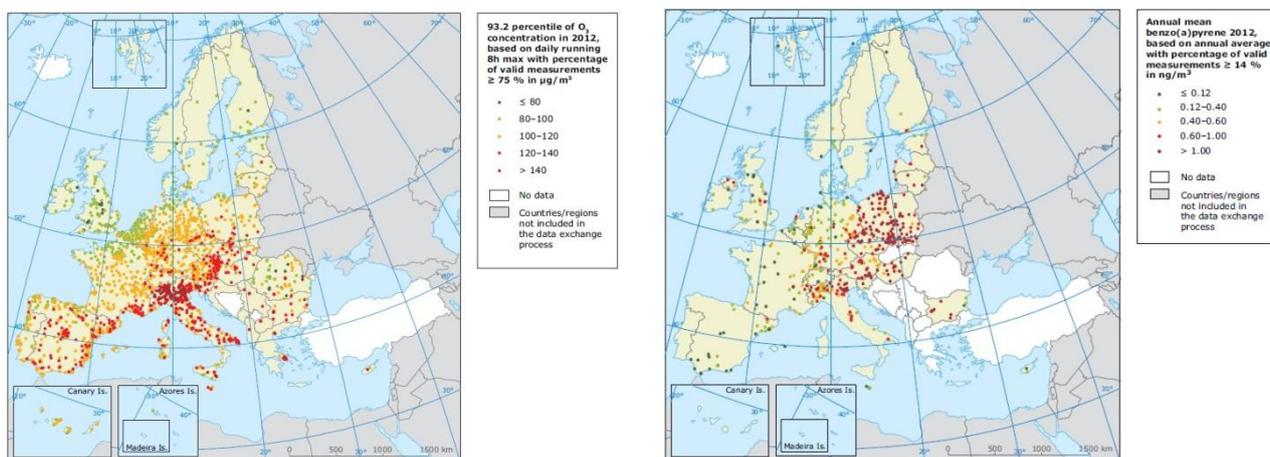


Fig. 2.1 - Concentration of PM<sub>10</sub> and concentration of NO<sub>2</sub> (2012)  
Concentration of O<sub>3</sub> and concentration of BaP (2012)<sup>13</sup>

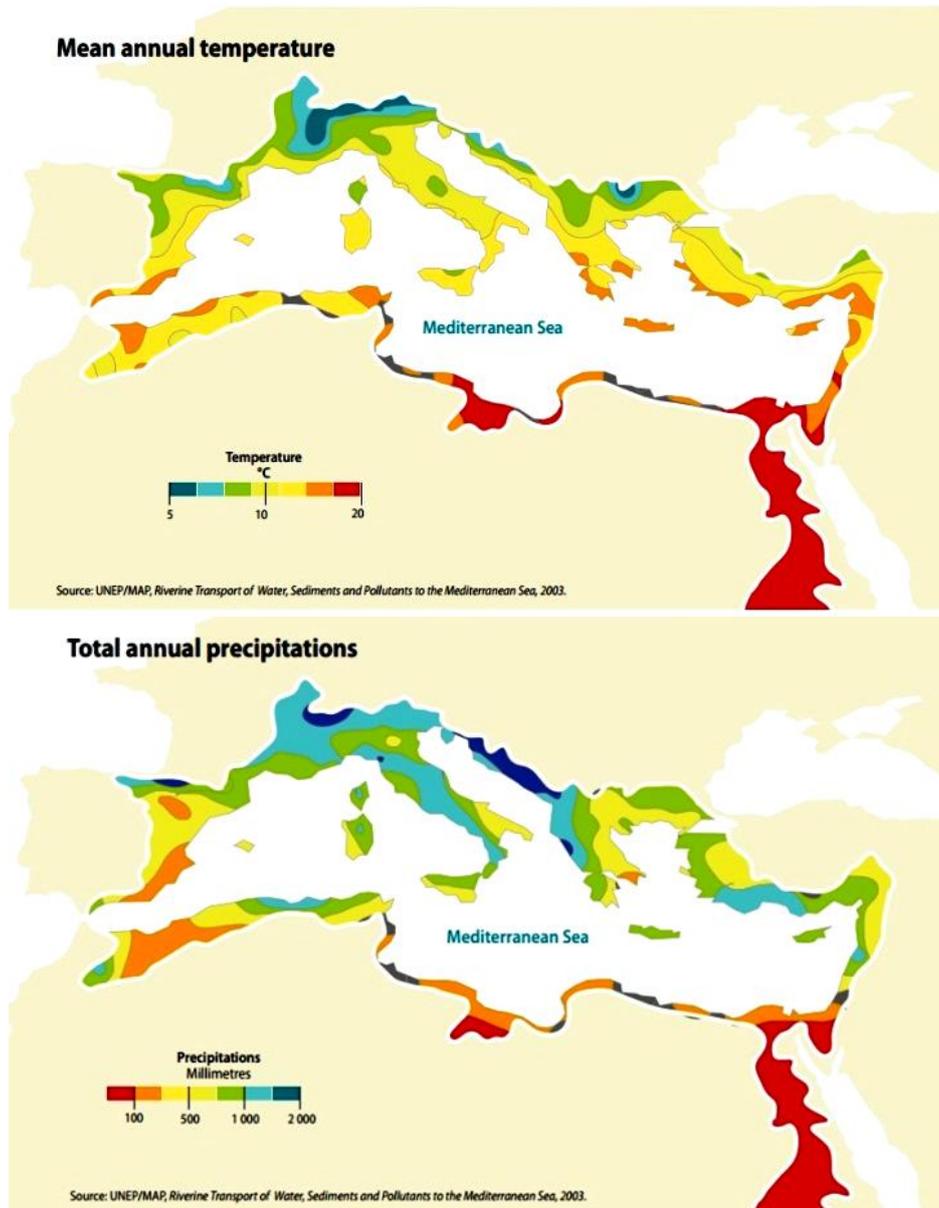
The main pressures on air quality are:

- industrial activities;
- transports;
- controlled disposal of solid waste (e.g. incinerators);
- energy production (e.g. fossil fuels combustion).

Air pollutants' concentration in the atmosphere is strongly related to climate, precipitation and wind intensity. Climatically, the Mediterranean is characterised by generally warm temperatures, winter-dominated rainfall, dry summers and a profusion of microclimates due to local environmental conditions. Mean annual temperature follows a marked north to south gradient: lowest temperatures of  $<5\text{ }^\circ\text{C}$  can be found in the higher parts of the Alps, whereas temperatures of  $>20\text{ }^\circ\text{C}$  are typical for Libya or Egypt.

Also mean annual precipitation shows a north to south gradient, with decreasing values towards the south: while northern regions in the alpine and Pyrenean headwater regions of the Po, the Rhone and the Ebro rivers have a total annual precipitations included between 1500-2000 mm, eastern and southern regions reaches even less than 100 mm of total annual precipitation.

<sup>13</sup> Air quality in Europe, EEA Report n. 5 (2014)



**Fig. 2.2 - Main annual temperature and main annual precipitation in the Mediterranean Sea Basin<sup>14</sup>**

One of the major characteristics of the Mediterranean climate is the strong summer-winter rainfall contrast, more pronounced when going from the north to the south and from the west to the east. In fact precipitation mainly falls during winter and autumn whereas summer is very dry and in some southern countries this condition exceeds six months.<sup>15</sup>

The Mediterranean basin is one of the regions most vulnerable to **climate change** linked to the increasing emissions of greenhouse gases from human activities: according to the Intergovernmental Panel on Climate Change (IPCC), by 2050 it is expected a temperature rise of 2 to 3°C, and by 2100 from 3 to 5°C. In this scenario, summer rainfalls could decrease by 35% on the southern rim and by 25% on the northern rim by the end of the century.<sup>16</sup>

<sup>14</sup> Source: UNEP/MAP/MED POL (2003). Riverine transport of water, sediments and pollutants to the Mediterranean Sea. United Nations Environment Programme, Mediterranean Action Plan, Athens.

<sup>15</sup> Source: UNEP/MAP/MED POL (2003). Riverine transport of water, sediments and pollutants to the Mediterranean Sea. United Nations Environment Programme, Mediterranean Action Plan, Athens.

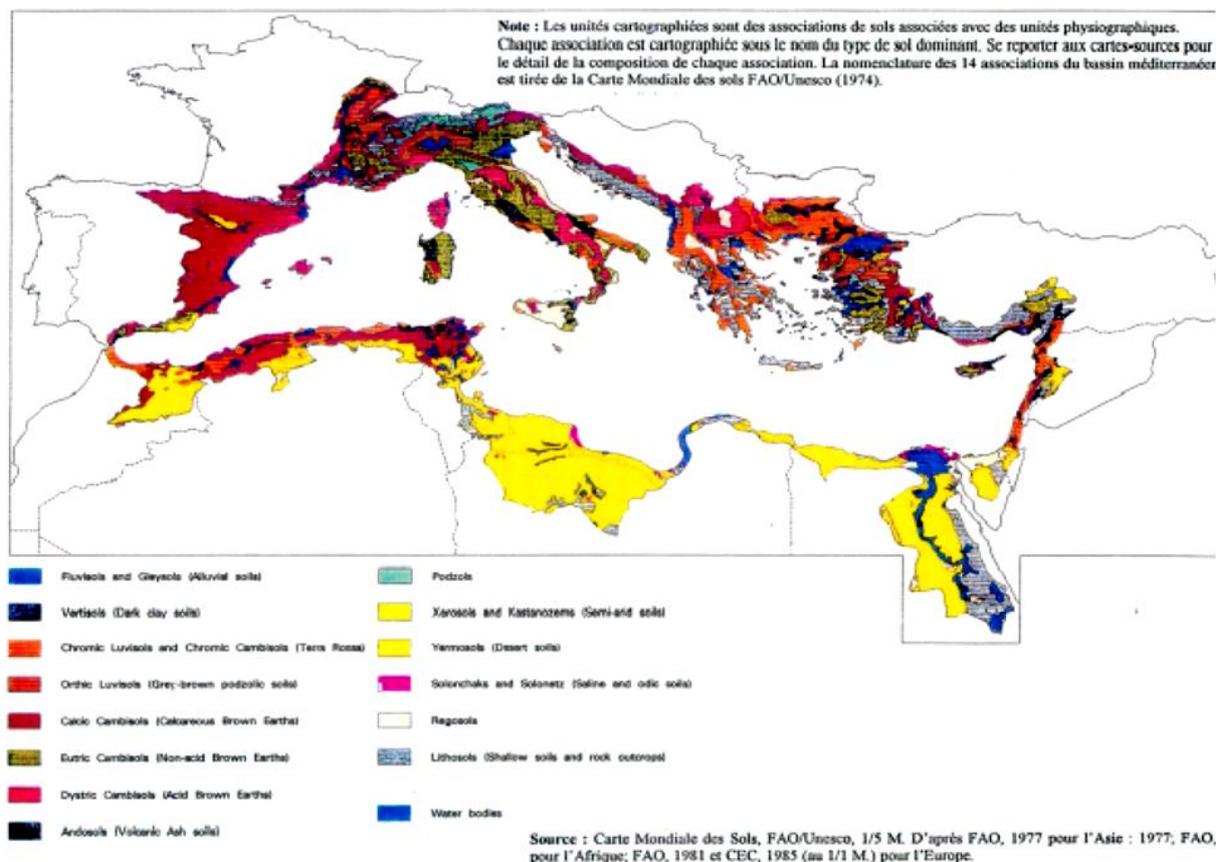
<sup>16</sup> Plan Bleu (2015) <http://planbleu.org/en/activites/changement-climatique>

## 2.1.2 Soil<sup>17</sup>

Soil is one of the Mediterranean critical natural resources, because of the increasingly widespread phenomena of fertility losses, desertification, erosion and artificialization.

Soil formation depends on natural factors (i.e. geology, topography, climate and vegetation) as well as man-made factors. Mankind has profoundly transformed the soils of the Mediterranean Basin for by clearing, planting cultivating and developing terraces, levees and hydraulic structures.<sup>18</sup>

The map below shows the soil main types of the Mediterranean Basin.



**Fig. 2.3 - The main soil types in the Mediterranean Basin<sup>19</sup>**

About 300,000 km<sup>2</sup> of land in the European coastal zone of the Mediterranean is undergoing desertification, affecting the livelihood of 16.5 million people. In Tunisia and Spain alone the costs of desertification have been evaluated at \$100 million and \$200 million a year respectively (WWF).

The intensification of agriculture, in particular, has reinforced a long-term trend toward desertification in the region and about half of Mediterranean lands are subject to the risk of erosion and therefore of soil loss.

The map below show that the territories more characterized by a severe desertification are the shores of Libya, Morocco, Tunisia and Algeria in the South-Western rim of the sea, Egypt, Lebanon, Syria and Turkey

<sup>17</sup> The main source of data used to drafts this section are: State of the Mediterranean marine and coastal environment, UNEP/MAP (2012); Threats to Soils in Mediterranean Countries, Plan Bleu (2003); Riverine transport of water, sediments and pollutants to the Mediterranean sea, UNEP/MAP (2003)

<sup>18</sup> Threats to Soils in Mediterranean Countries, Plan Bleu (2003)

<sup>19</sup> Threats to Soils in Mediterranean Countries, Plan Bleu (2003)

in the Eastern rim and some territories along Spain, Greece and south of Italy (Sardinia and Sicily).



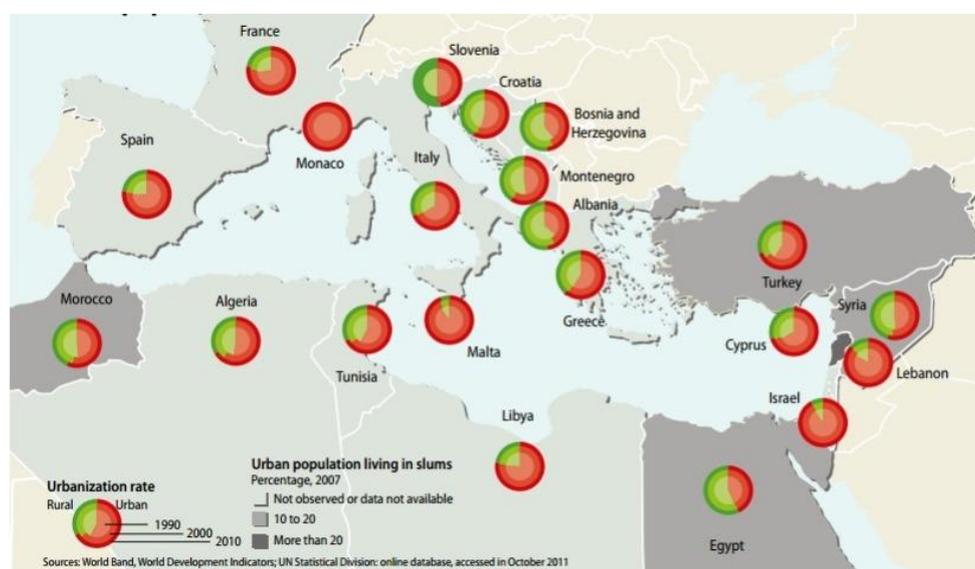
**Fig. 2.4 - The Water stress in the Mediterranean basin<sup>20</sup>**

The main threats responsible of soil erosion and fertility losses are:

- the aggressive climate;
- a topography conducive to erosion;
- inadequate farming practices;
- a land-use system not adapted to the physical context.

Three main threats are responsible of soil artificialisation growth:

- demographic growth and consequent pressure in the urban areas;
- development of space-consuming activities such as tourism, especially on the coasts, industrialisation and relative infrastructures construction;
- changes in life-style, leading to an ever more dispersed habitat.



**Fig. 2.5 – Urban population in the Mediterranean countries<sup>21</sup>**

Soil degradation is also caused by pollution generated by modern farming using chemical fertilisers and pesticides and dumping of agricultural, industrial and household waste.

<sup>20</sup> Blue Plan, informations based on national sources; Water, energy, desalination & climate change in the Mediterranean, 2008; IDA Worldwide Desalting Plants Inventory; Beilstein, M.; Bournay, E., Environment and Security in the Mediterranean: Desertification, ENVSEC, 2009

<sup>21</sup> World band, World development indicators; UN statistical division: on line database (2011)

### 2.1.3 Water<sup>22</sup>

Water resource represent an important ecosystem service, but its availability in the Mediterranean basin is limited, therefore the area is one of the most vulnerable to water crisis. The freshwater resources are unevenly spread across Countries: nearly two-thirds are concentrated in the northern rim Countries, while most countries on the Southern and Eastern shores of the Mediterranean are in ‘water stress’ , disposing less than 1000 m<sup>3</sup>/capita/year. Some of these Countries (Libya, Malta, Jordan, Palestine, Israel, Tunisia and Algeria, counting a total population of around 80 million people) are in ‘structural shortage’ situation with less than 500 m<sup>3</sup>/capita/year. This means that about 20 millions of Mediterraneans don’t have access to drinking water and 47 millions to adequate sanitation.



Fig. 2.6 – Mediterranean areas under water stress<sup>23</sup>

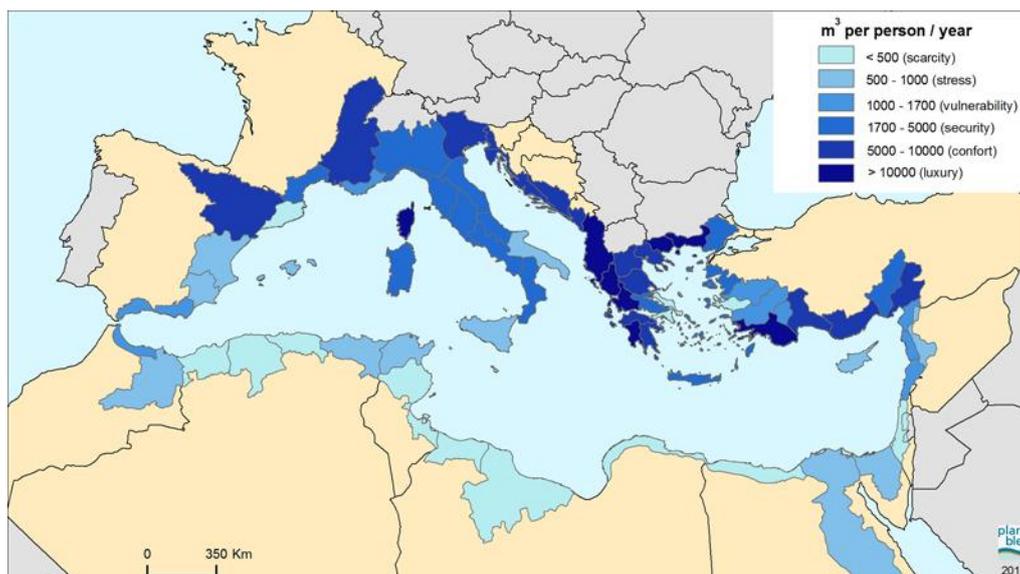


Fig. 2.7 – Natural renewable water resources per capita in the Main Mediterranean watersheds<sup>24</sup>

<sup>22</sup> The main source of data used to drafts this section is: State of the Mediterranean marine and coastal environment, UNEP/MAP

<sup>23</sup> Source: UNEP GRID-Arendal / Zoi from IPCC, 2007 ; World Resources Institute, 2007 ; Rogers and Randolph in : Sciences, 2000 ; Fischer et al, 2005

While water is a renewable resource, its capacity to self-generate varies according to space and time and strictly depends on temperature and amount of precipitations, which in the Mediterranean basin can be subject to high seasonal variability, alternating long and intense dry periods with extreme rainfall ones.

Over-exploitation of water resource could lead to a disequilibrium in water balance: some Mediterranean Countries are close to exceed the average annual volume of renewable natural resources and they are also using non-renewable water sources. In addition to water scarcity, **water quality** is also subjected to a progressive deterioration, for the increasing unregulated or illegal discharge of contaminated water within and beyond national borders. These issues are so threatening food security, access to safe drinking and bathing water and providing a major health and environmental management challenge.

The **Mediterranean drainage basin** extends over an area of more than 5 million km<sup>2</sup> and includes Ebro, Rhone, Po, and Nile, which represent the major perennial rivers and are supplied by very large drainage basins, often collecting water beyond the boundaries of the Mediterranean climatic belt. Also smaller rivers with drainage basins less than 10.000 km<sup>2</sup>, even though they have small volumes of water because of the high evaporation and the low annual rainfall, play an important role.

Figure below shows the rivers discharge of freshwater into the Mediterranean, the major perennial ones are also indicated in following table.

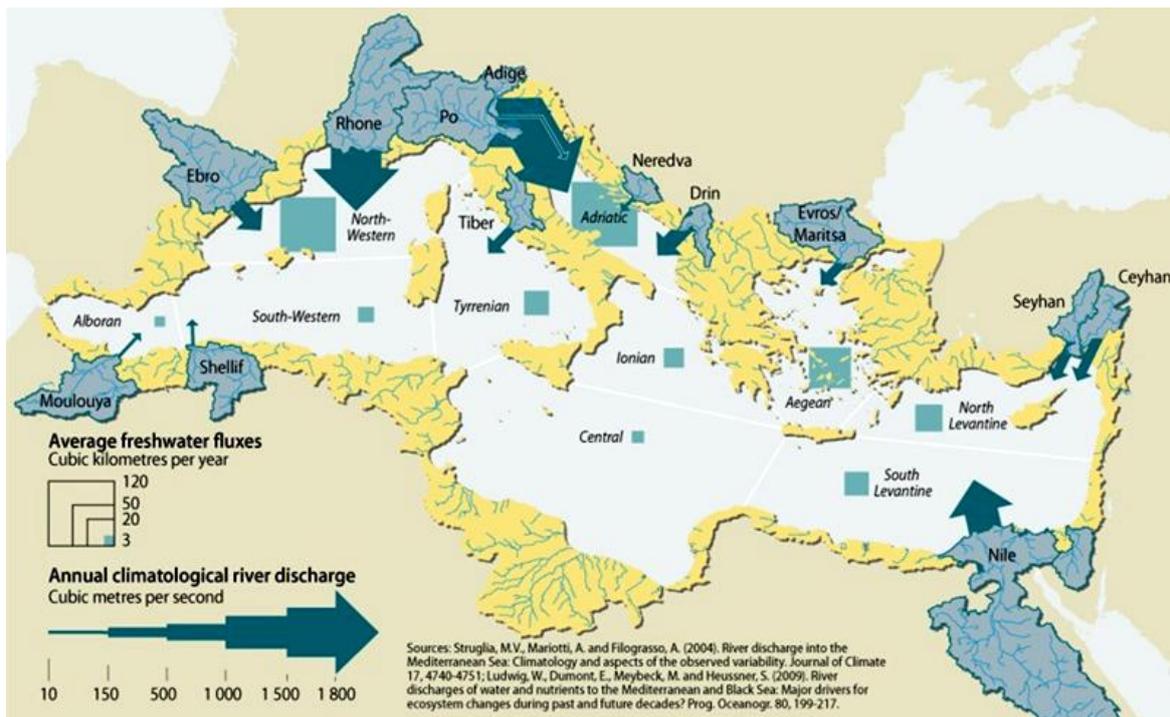


Fig. 2.8 – River discharge of freshwater in the Mediterranean<sup>25</sup>

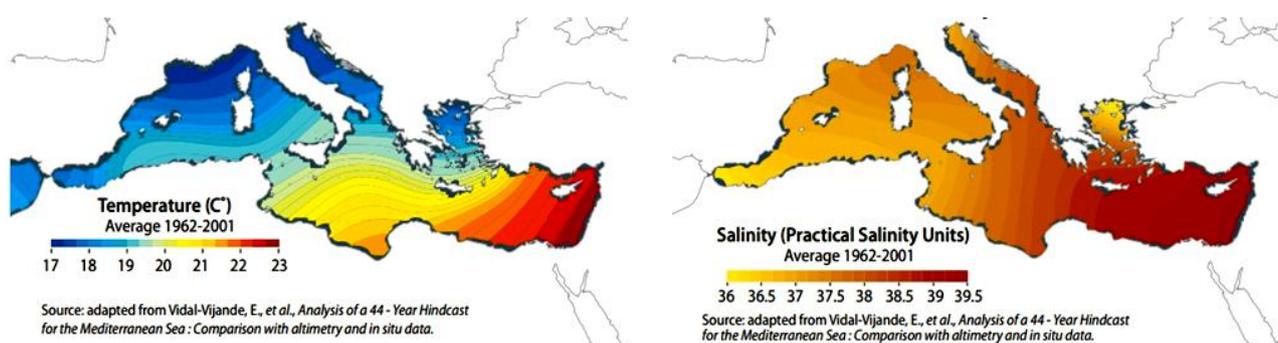
<sup>24</sup> Source: Plan Bleu (2010) <http://planbleu.org/en/activites/eau>

<sup>25</sup> State of the Mediterranean marine and coastal environment, UNEP/MAP (2012)

River	Drainage region	Outflow sub-basin	Drainage area
<b>Ebro</b>	Southern flanks of the Pyrenees and northern flanks of the Iberian Cordillera	Catalano-Balearic Sea	84.000 km <sup>2</sup>
<b>Rhone</b>	Central Alps and flows through Lake Geneva and southeastern France	Gulf of Lion	96.000 km <sup>2</sup>
<b>Po</b>	Southern flanks of the Alps and the northern part of the Apennine mountain range	Adriatic Sea	75.000 km <sup>2</sup>
<b>Nile</b>	Northeastern part of the African craton	Levantine Sea	3.300.000 km <sup>2</sup>

**Tab. 2.9 – Major perennial rivers and their drainage region<sup>26</sup>**

Rivers also play a key role in the Mediterranean’s water circulation because give a relatively large amounts of drainage, helping in sustaining marine productivity. Changes in freshwater input due to natural variability or major river regulation, lead to changes in the Mediterranean’s surface-water salinity. Both water surface salinity and temperature shows highest values in the South- Eastern area, and those values decrease moving in the North-Western area (Fig. 2.10)



**Fig. 2.10 – Main surface temperature and main surface salinity in the Mediterranean sea<sup>27</sup>**

**Marine and costal pollution** affecting the Mediterranean sea water can be related to: oxygen-depleting substances, heavy metals, persistent organic pollutants (POPs), hydrocarbons, microorganisms and nutrients introduced by human activities. Those pollutants enter from:

- the shores (land-based sources) either via discharge points and dumping grounds (point-source pollution) or from surface fluvial run-off (non-point-source pollution);
- marine activities: shipping, fishing, mining, and oil and gas exploration.

The organic pollution (whose extent is measured as the Biochemical Oxygen Demand BOD) is originated mostly from urban, domestic and industrial wastewater entering through rivers or direct point-source discharges. The distribution of coastal cities that lack wastewater treatment facilities or have inadequate treatment facilities is not uniform across the Mediterranean region, as can be seen in the following map. On the South-Western shore many cities are not provided of sewage treatment, the same goes for Sicily and the Eastern coast of the Adriatic and the North-Eastern cost.

<sup>26</sup> State of the Mediterranean marine and coastal environment, UNEP/MAP (2012)

<sup>27</sup> Source: adapted from Vidal-Vijande, E., et al., Analysis of a 44 - Year Hindcast for the Mediterranean Sea: Comparison with altimetry and in situ data

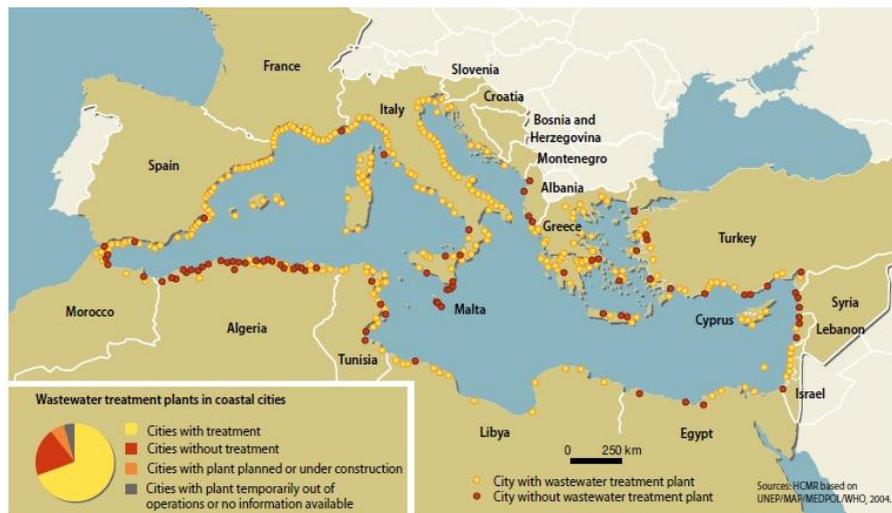


Fig. 2.11 – Wastewater treatment in Mediterranean coastal cities<sup>28</sup>

Heavy metals, defined as those potentially toxic metals that persist in the environment, affecting the Mediterranean sea water can be related to: urban and industrial wastewaters, atmospheric deposition and run-off from metal contaminated sites. In the Mediterranean countries water contamination is mostly related to the fertiliser industry (Hg, As, Pb), metal industry (Ni, Zn) and wastewater treatment plants (Cd, Cu), with important contributions also from the energy sector and the chemical industry.

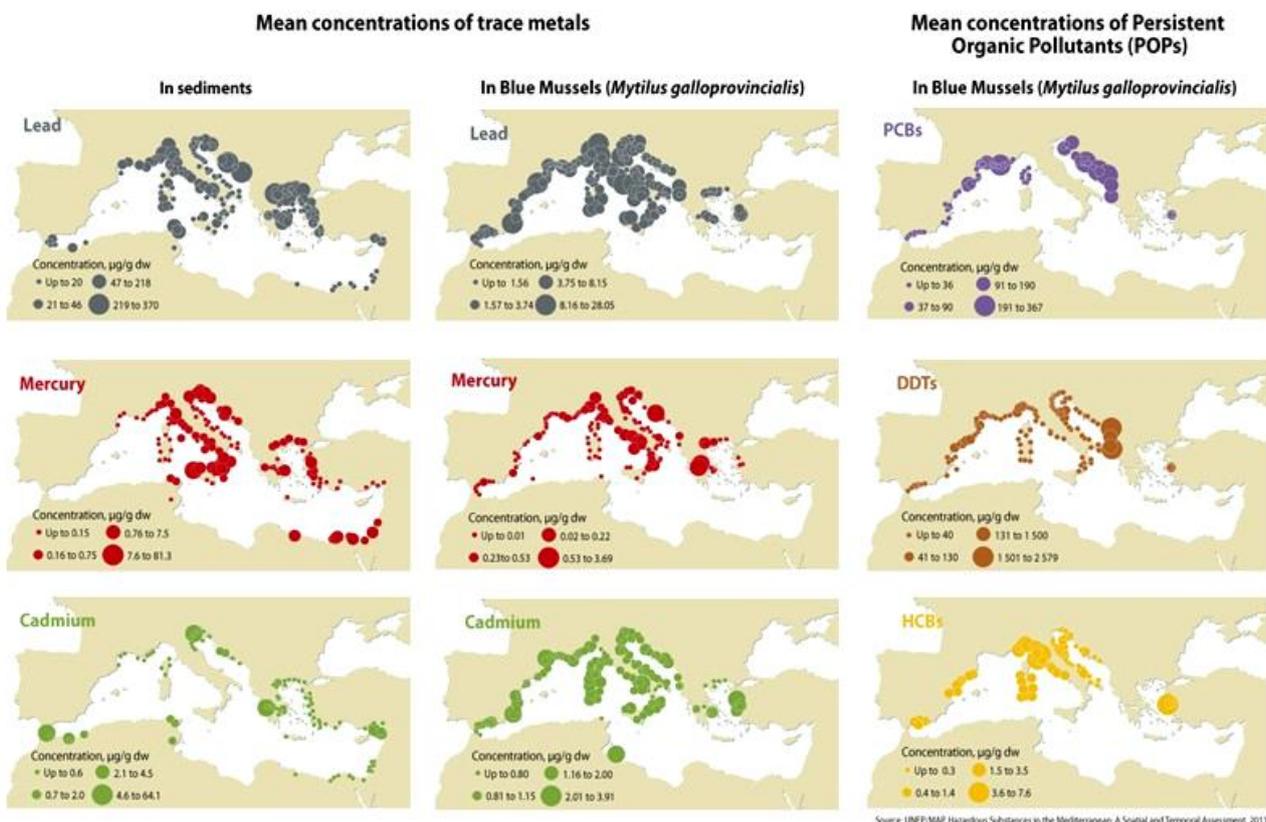
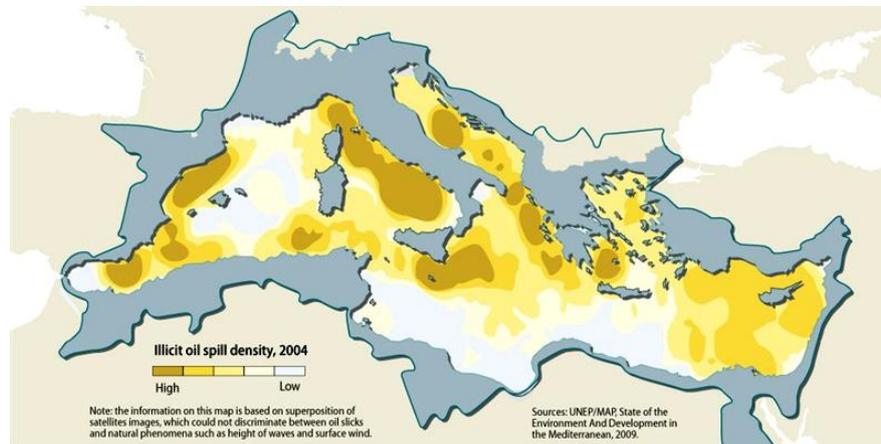


Fig. 2.11 – Wastewater treatment in Mediterranean coastal cities<sup>29</sup>

<sup>28</sup> Source: State of the Mediterranean marine and coastal environment, UNEP/Map (2012)

<sup>29</sup> Source: State of the Mediterranean marine and coastal environment, UNEP/Map (2012)

Petroleum hydrocarbon pollution in the Mediterranean Sea is mostly generated from marine transport. Even though it is not simple to collect specific data on oil discharge, illicit vessel discharges can be detected using satellite images, allowing the estimation of the spatial distribution of oil-spill density and the identification of hot spots, correlated with the major shipping routes, as can be seen in the following map.



**Fig. 2.11 – Possible oil slicks detected by satellites**<sup>30</sup>

Pressures on water availability are directly affected by three main drivers:

- climatic changes: the Mediterranean basin is considered as a global “hot-spot” in terms of climate variability and the climate change scenarios for 2050 predict a reduction in rainfall and a rise in temperatures, which could induce increased evapotranspiration, salinisation of aquifers and a drastic reduction in water resources;
- population growth: related to urbanization, deforestation, dams building and increase of domestic and sanitaire water need;
- human activities: in particular the development of agriculture, tourism and industries request freshwater.

**Eutrophication** is one of the significant problems of the Mediterranean. Nutrients in seawater present a paradox. Nutrients are, of course, essential for life. In the oligotrophic environment of the Mediterranean, the ecosystems with the most nutrients are generally the most productive and diverse. At the same time, many Mediterranean nearshore areas are threatened by nutrient overenrichment due to coastal and watershed development. Municipal sewage is the big offender, followed by fertiliser run-off from agricultural areas, lawns and golf courses. The problem is particularly acute in shallow sub-basins with limited flushing, common features in parts of the Adriatic and along the Mediterranean’s southern shore. Many developed coastal areas suffer particularly from increased influx of dissolved nitrogen and phosphorus. Sources include untreated human sewage, animal waste, transportation, fertilisers and industrial discharges. The largest emitters of nitrogen are urban wastewater treatment (45 %), livestock farming (24 %) and the organic chemical industry (2 %). Ammonia emissions from animal manure used as fertiliser also contribute nitrogen.

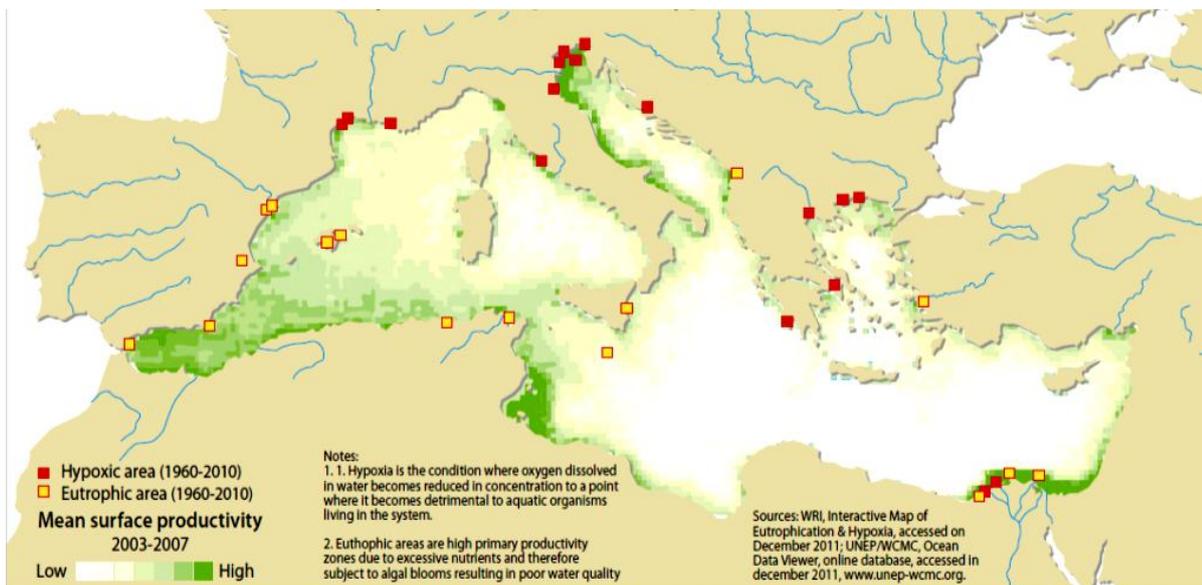
The main sources of phosphorus are fertiliser manufacturing (40 %), livestock farming (39 %) and urban wastewater treatment (13 %) (UNEP/MAP/MED POL 2012). Although the overall inputs of nitrogen (about 1,5–4,5 million tonnes per year) and phosphorus (about 0,1–0,4 million tonnes per year) are low compared to some other seas (e.g., Black Sea), these nutrients are problematic in coastal areas (UNEP/MAP/MED POL 2005). According to National Baseline Budget 2008 data, total nitrogen is mostly emitted by wastewater treatment plants, animal farms, the organic chemical industry in the northern Mediterranean countries and the tanning sector in the southern and eastern shores. The fertiliser industry is the main source of total phosphorus, especially in those producer countries like Tunisia, Algeria, Lebanon or Greece. Aquaculture is also reported as an important source of nutrients and suspended solids.

<sup>30</sup> Source: State of the Mediterranean marine and coastal environment, UNEP/MAP (2012)

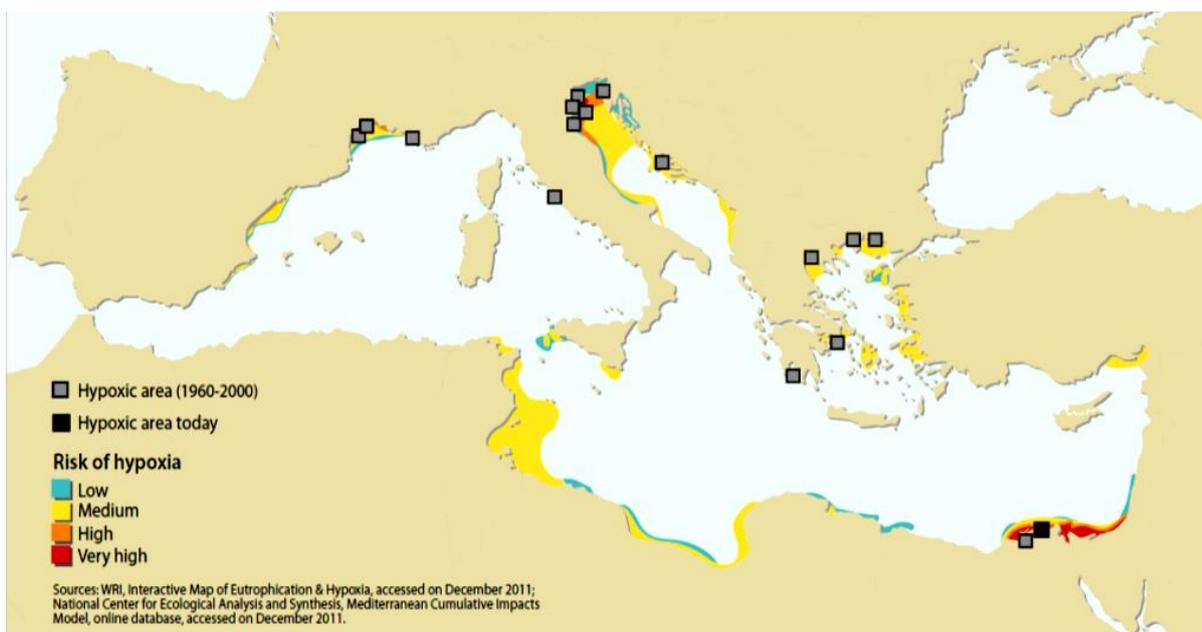
Although total discharges are not comparable to other sectors, they can lead to localised impacts in the marine environment. Spain, Greece, Turkey, Italy and Croatia are the countries with the largest marine aquaculture development (UNEP/MAP/MED POL 2012).

Agriculture is the largest non-point source of pollutants in the Mediterranean (UNEP/MAP 2011). Agriculture-related nutrients enter the sea through groundwater, lakes, wetlands, and rivers.

Nitrogen consumption per surface unit of arable land is highest in countries of the northern watershed, with the exception of Bosnia- Herzegovina and Albania. In contrast, point-source release is highest on the eastern coast of the Adriatic. Other point sources of nitrogen are concentrated in the Ebro watershed, the eastern coast of the Levantine Basin and the western coast of Tunisia.



**Fig. 2.12 – Mean surface productivity and eutrophic and hypoxic hot spots in the Mediterranean** <sup>31</sup>



**Fig. 2.13 – Hypoxia in the Mediterranean Sea** <sup>32</sup>

<sup>31</sup> Sources: WRI, Interactive Map of Eutrophication & Hypoxia, accessed on December 2011; UNEP/WCMC, Ocean Data Viewer, online database, accessed in december 2011, www.unep-wcmc.org.

## 2.1.4 Ecosystems and Biodiversity<sup>33</sup>

### 2.1.4.1 Overview

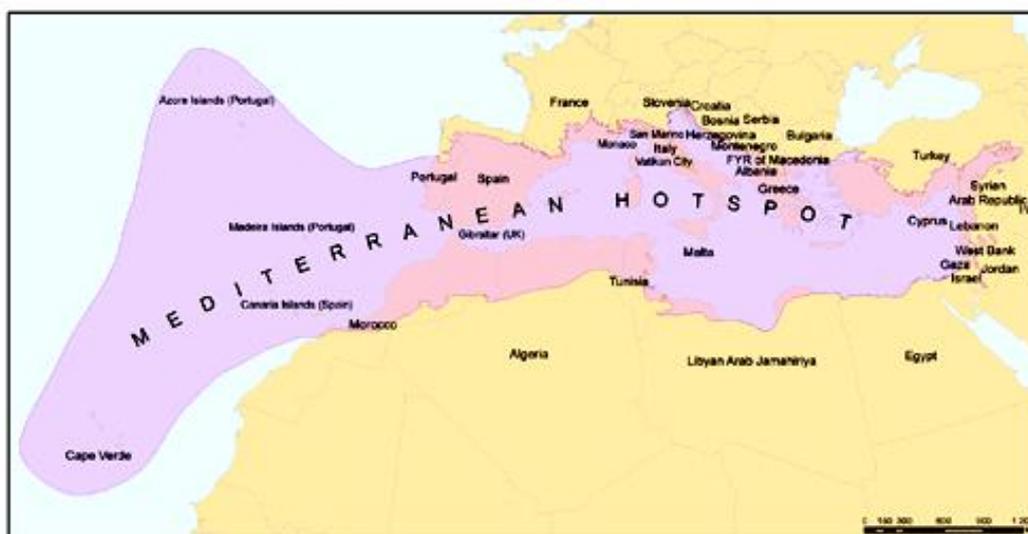
The Mediterranean Basin hosts a wide variety of species and habitats. According to data elaborated by the Critical Ecosystem Partnership Fund<sup>34</sup>, the Basin biodiversity hotspot is the second largest hotspot in the world and the largest of the world's five Mediterranean-climate regions. It is also the third richest hotspot in the world in terms of its plant diversity (Mittermeier et al. 2004). Approximately 30,000 plant species have been recorded, and more than 13,000 species are endemic. This high level of endemism is summarised in Table below for the main taxonomic groups:

Taxonomic Group	Species	Endemic Species	Percent Endemism
Plants	30000	13000	43
Mammals	330	87	26
Birds	600	16	3
Reptiles	357	170	48
Amphibia	115	71	62
Freshwater Fish	400	253	63

**Table 2.14 – total number of species and endemic species in the Mediterranean Basin**<sup>35</sup>

At the same time, human presence and the establishment of advanced, agriculture-based civilizations in the region dates back to the Neolithic age. Therefore, many of the ecosystems currently occurring are the result of a long term interaction with human activity, from agriculture to grazing, urbanization and consequent modification of the landscapes. Many traditional landscapes in the region thus have not only an ecological importance, but are valuable also from a cultural point of view. Example of such habitats and landscapes include extensive agro-forestry and agro-pastoral areas as the Spanish dehesa, vineyards dominated landscapes as in Tuscany, and many other ones.

The Mediterranean Basin, if considered from a Biogeographic point of view (i.e. comprising all the areas with a climate classified as Mediterranean) covers more than 2 million square kilometres and stretches west to east from Portugal to Jordan and north to south from northern Italy to Cape Verde (Figure 1). It includes also the Azores islands and Capo Verde.



**Fig. 2.15 – The Mediterranean Basin**<sup>36</sup>

<sup>32</sup> Sources: WRI, Interactive Map of Eutrophication & Hypoxia, accessed on December 2011; National Center for Ecological Analysis and Synthesis, Mediterranean Cumulative Impacts Model, online database, accessed on December 2011.

<sup>33</sup> The source of data used to drafts this section are the IUCN reports on the Mediterranean Basin available on the IUCN website: <http://www.iucn.org/about/union/secretariat/offices/iucnmed/resources/publications/>

<sup>34</sup> Available at: [http://www.cepf.net/where\\_we\\_work/regions/europe\\_central\\_asia/mediterranean/Pages/default.aspx](http://www.cepf.net/where_we_work/regions/europe_central_asia/mediterranean/Pages/default.aspx)

<sup>35</sup> Source: CEPF, 2010

Taxa	Critically Endangered	Endangered	Vulnerable	Total
Amphibia	5	13	12	30
Aves	6	9	13	28
Fish	49	59	87	195
Gastropoda	4	3	22	29
Insecta	1	2	19	22
Invertebrate	1	-	45	46
Mammalia	3	15	25	43
Odonata	-	2	7	9
Plantae	61	25	14	100
Reptilia	15	24	14	53
<b>Total</b>	<b>145</b>	<b>152</b>	<b>258</b>	<b>555</b>

Tab. 2.16 – Summary of Globally Threatened Species in the Mediterranean Basin Hotspot<sup>37</sup>

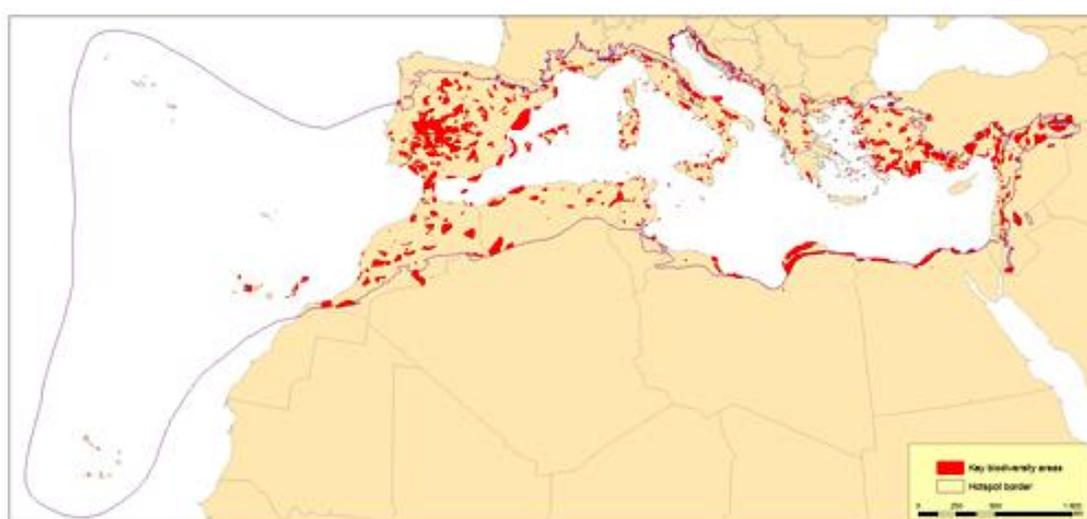


Fig. 2.17 – Map of Key Biodiversity Areas in the Mediterranean Basin Hotspot

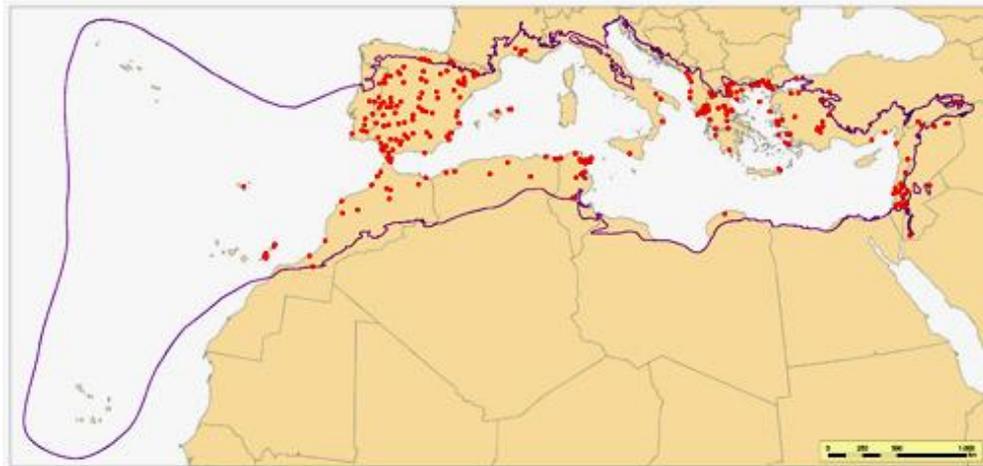
#	Country	# of key biodiversity areas	#	Country	# of key biodiversity areas
1	Albania	16	17	Lebanon	29
2	Algeria	40	18	Libya	19
3	Bosnia and Herzegovina	9	19	Malta	0
4	Bulgaria	0	20	Monaco	0
5	Cape Verde	19	21	Montenegro	11
6	Croatia	37	22	Morocco	68
7	Cyprus	1	23	Palestinian territories	10
8	Egypt	12	24	Portugal*	55
9	France	33	25	San Marino	0
10	FYROM	14	26	Serbia	0
11	Gibraltar	1	27	Slovenia	0
12	Greece	103	28	Spain*	221
13	Israel	10	29	Syria	30
14	Iraq	0	30	Tunisia	62
15	Italy	156	31	Turkey	140
16	Jordan	14	32	Vatican City	0

\* These figures include the Azores and Madeira Islands in Portugal, and the Canary Islands in Spain.

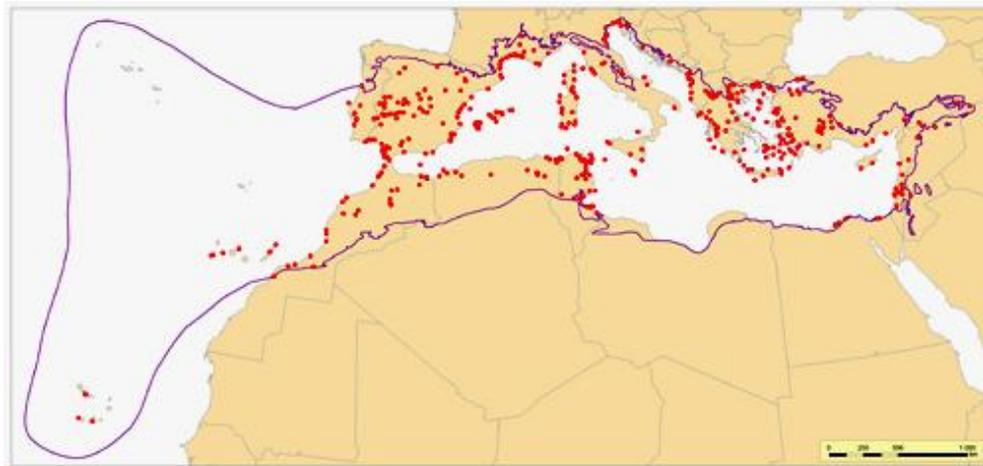
Fig. 2.18 – The Mediterranean Basin Number of Key Biodiversity Areas Delineated in Each Country and Territory Present in the Mediterranean Basin Hotspot

<sup>36</sup> Source: <http://www.cepf.net>

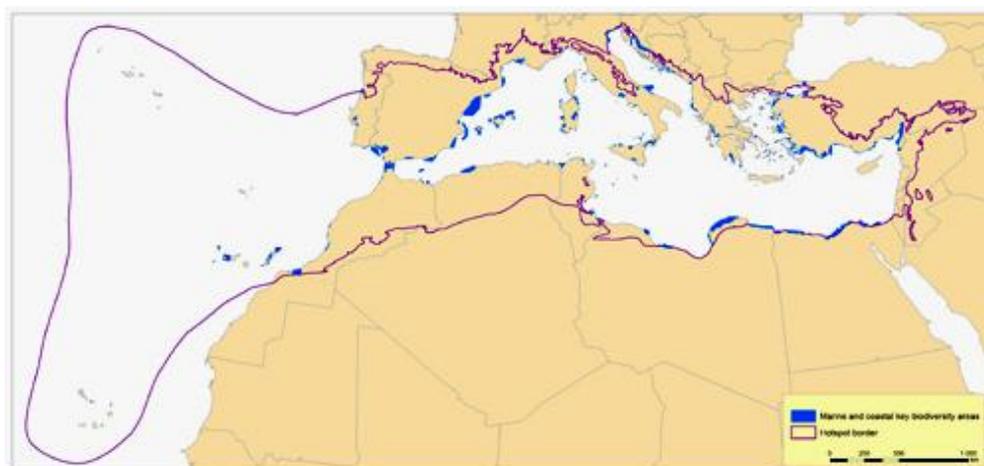
<sup>37</sup> Source: <http://www.cepf.net>



**Fig. 2.19 – Key Biodiversity Areas Supporting Significant Populations of Globally Threatened Migratory Birds in the Mediterranean Basin Hotspot**<sup>38</sup>



**Fig. 2.20 – Key Biodiversity Areas Meeting the Criteria for Potential Designation as Ramsar Sites as Identified by BirdLife International**<sup>39</sup>



**Fig. 2.21 – Marine and Coastal Key Biodiversity Areas of the Mediterranean Basin Hotspot**<sup>40</sup>

<sup>38</sup> Source: BirdLife International, 2009

<sup>39</sup> Source: BirdLife International 1994, 2001 and 2002

<sup>40</sup> Source:www.cepf.net

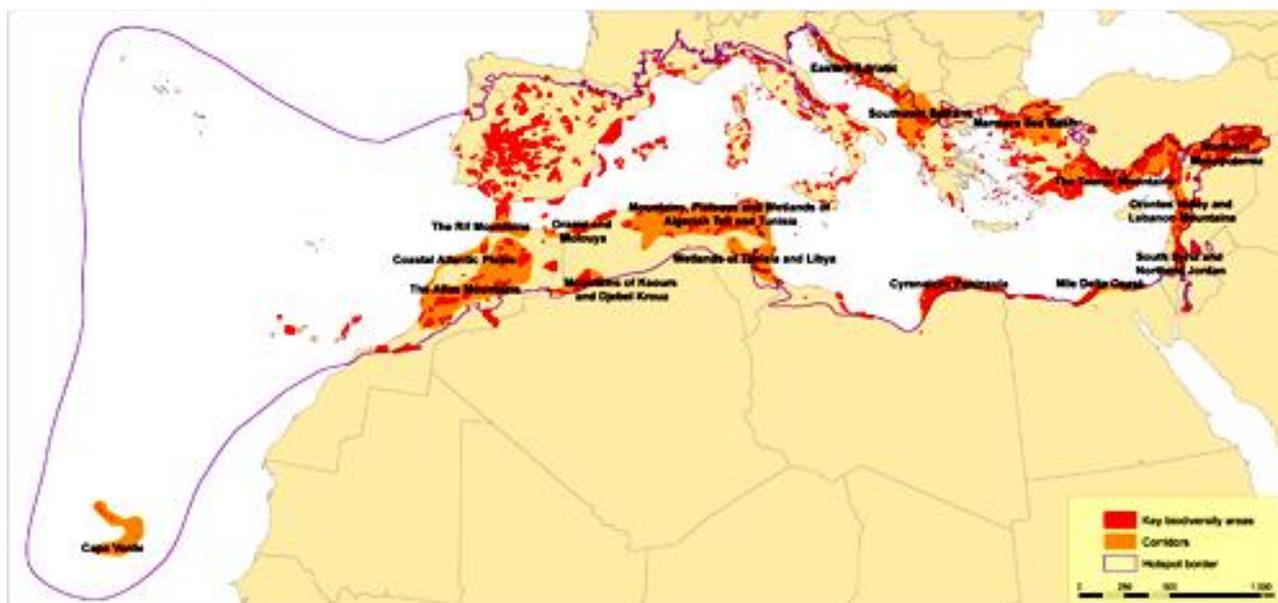


Fig. 2.22 – Site and Corridor Outcomes for the Mediterranean Basin Hotspot <sup>41</sup>

The high biodiversity occurring in this region is the result of its location, at the intersection of two major landmasses, Eurasia and Africa, and the great topographical diversity and altitudinal differences. It's peculiar climate is characterized by warm to hot, dry summers and mild to cool, wet winters. The presence of the sea plays a major role in moderating the climate. Rainfalls may range from 100 millimetres to 3,000 millimetres per year, resulting in high vegetation diversity within the region. All these factors contributed to the exceptionally high plant endemism and diversity.

The *Mediterranean forests, woodlands, and scrub* is the main biome of this region. Mediterranean forests are generally composed of broadleaf trees. Typical species include oak (*Quercus spp*) and with increasing altitude sweet chestnut (*Castanea sativa*), and coniferous species of *Abies*, *Pinus*, *Juniperus* and *Taxus spp*. Mediterranean woods tend to be more open than northern forest due to drier conditions, as a consequence, they present a rich understory of shrubs and bushes.

The Mediterranean Shrubland is perhaps the more representative ecosystem of the region. It is composed by sclerophyll shrubs, that is short (50 cm to 4 m) vegetation with hard leaves adapted to dry climate and water shortage in summer. Such biome comprise a variety of similar but not identical habitats that are observable in a variety of shapes and compositions, depending on specific climatic condition, soil characteristics and level of interference of human activities. Such ecosystems are called *maquis* in France, *macchia* in Italy, *matorral* in Spain. *Garrigue* refers to a more open type of scrubland, with less dense and shorter vegetation (*phrygana* in Greek, *batha* in Israel).

The main plant species of these ecosystems include: *Erica arborea* (tree heath); *Euphorbia dendroides*, (tree spurge); *Pistacia lentiscus* (mastic), *Cistus spp* (rock rose family) *Laurus nobilis* (Bay laurel); *Arbutus unedo* (strawberry tree) *Myrtus communis* (myrtle); *Rosmarinus officinalis* (rosemary), *Juniperus spp* (juniper); *Spartium junceum* (Spanish broom or weaver's broom) *Cytisus scoparius* (common broom or Scotch broom) *Nerium oleander* (oleander); *Ruscus aculeatus* (butcher's-broom).

The great variety of plant species host as a consequence a great variety of insects and wildlife as well. Among the main species of mammals, the following shall be mentioned because of their ecological value and threatened status: endemic Maghreb deer (*Cervus elaphus barbaricus*), Macaque (*Macaca sylvanus*), Iberian lynx (*Lynx pardina*), Bear (*Ursus arctos*), Wolf (*Canis lupis*), Spanish ibex (*Capra pyrenaica*) and Barbary sheep (*Ammotragus lervia*). Agricultural lands and grasslands occupy 40% of the region and varies

<sup>41</sup> Source:www.cepf.net

between large intensively used areas of crops and olive or citrus groves to more mixed farming systems. The Mediterranean Sea is also rich in biodiversity with 7.5% of the world's marine fauna and 18% of marine flora concentrated in this region. A high degree of endemism is found also as regards marine species, estimated at 28%. Shallow coastal areas host most of such biodiversity, although there are key biodiversity elements associated with deep waters, as well as with offshore pelagic waters. Overall, the Mediterranean sea is not very teeming with fish. The western part of the basin is richer than the eastern part, due to its proximity to the Atlantic ocean.

Broadly speaking, the Mediterranean landscape is characterized by a complex pattern of mixed natural, semi-natural and agricultural patches. In contrast with most of the Atlantic and Baltic coasts, the Mediterranean coastline is predominantly hilly. Near to the coast, wetlands are also an important element of the landscape and a habitat of high ecological importance, hosting a great variety of species.

#### 2.1.4.2 Conservation status of habitats and species

Information available on conservation status of habitats and species are not uniformly available across the Mediterranean Basin. Two main data sources are used in this section: the Red List Index of Threatened species elaborated by the IUCN, and data on habitats conservation status collected by EU Member States under provision of art. 17 of the habitats Directive (92/43EC).

The International Union for Conservation of Nature (IUCN) is an international organization active in the field of nature conservation and sustainable development. Each year it elaborates and update the *Red List of Threatened Species* (also referred to as as the IUCN Red List or Red Data List). IUCN is acknowledge as the world's main authority in species conservation and the Red List is considered the world's most comprehensive inventory of the global conservation status of biological species. Each examined taxa is allocated in one of the following categories of threaten status (i.e risk of extinction):

- Extinct (EX) – No known individuals remaining.
- Extinct in the wild (EW) – Known only to survive in captivity, or as a naturalized population outside its historic range.
- Critically endangered (CR) – Extremely high risk of extinction in the wild
- Endangered (EN) – High risk of extinction in the wild.
- Vulnerable (VU) – High risk of endangerment in the wild.
- Near threatened (NT) – Likely to become endangered in the near future.
- Least concern (LC) – Lowest risk. Does not qualify for a more at risk category. Widespread and abundant taxa are included in this category.

Species may be also classified as Data deficient (DD) when not enough data is available to make an assessment of its risk of extinction; or Not evaluated (NE) (has not yet been evaluated against the criteria).

The table below shows the number of endangered species (belonging to classes Critically Endangered (CR), Endangered (EN), or Vulnerable (VU)) in each country of the ENI MED Program

The IUCN also produced focused assessment on specific bioregions, including the Mediterranean one. The last report on the Mediterranean basin is updated as of 2009. The main results are summarised as follows for the main taxonomic groups<sup>42</sup>:

#### *Mammals*

One in six (16.5%) Mediterranean mammals assessed on the report are threatened with extinction at the regional scale, with a further 8% assessed as Near Threatened. More than one-quarter (27%) of Mediterranean mammals have declining populations, 31% are stable, while for a further 40% the population trend is unknown; only 3% of species populations are increasing. A number of these increases are due to successful species-specific conservation action. Terrestrial mammal biodiversity is greatest in mountainous parts of the region, with particularly high concentrations of threatened species found in the mountains of Turkey, the Levant, and north-west Africa. The Maghreb holds a large number of endemic

<sup>42</sup> The source of data used to drafts this section are the IUCN reports on the Mediterranean Basin available on the IUCN website: <http://www.iucn.org/about/union/secretariat/offices/iucnmed/resources/publications/>

species, which are unique to the Mediterranean and found nowhere else in the world. Many of the threatened mammal species are endemic to the region, highlighting the responsibility that Mediterranean countries have to protect the entire global populations of these species. Of the 49 threatened species, 20 (41%) are unique to the region and occur nowhere else in the world. The greatest threat to Mediterranean mammals is destruction and degradation of habitat, caused by a variety of factors including agricultural intensification, urbanization, pollution, and climate change. Human disturbance, overexploitation and invasive species are also major threats (Figure 2.23).

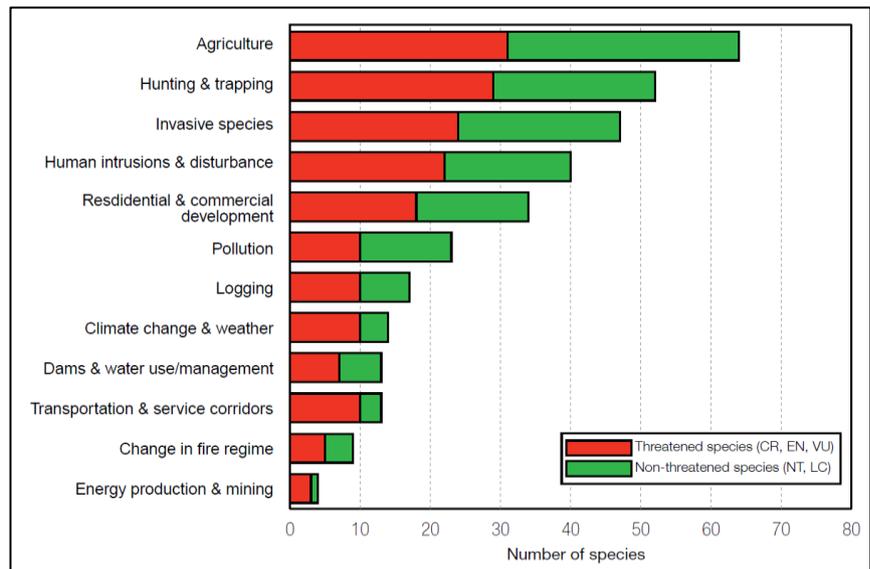
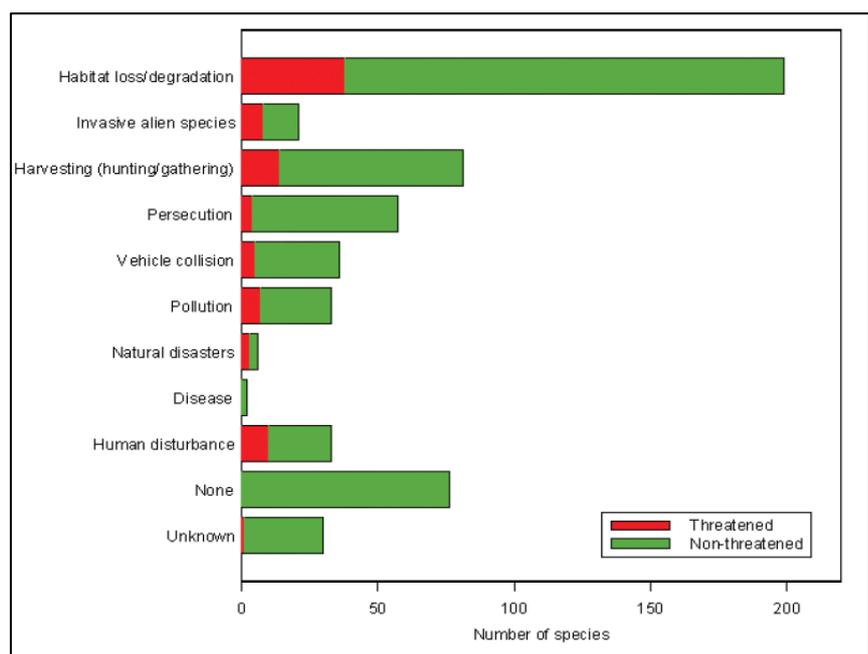


Fig. 2.23 – Main threats to mammals in the Mediterranean Basin - IUCN

### Reptiles

13% of Mediterranean reptile species are globally threatened, with 3.7% Critically Endangered, 6.2% Endangered and 3.1% Vulnerable. A total of 71% (252 species) are assessed as Least Concern and 19 (5.4%) species were considered to be Data Deficient. One species is listed as Extinct, the giant lizard from La Palma in the Canary Islands, *Gallotia auaritae*. The conservation status varies between the reptile orders. No threatened species occur in the region among the amphisbeanians or the crocodylians. Snakes have a relatively low level of threat, with only six species (5.6%) being threatened. Among the lizards, the percentage of threatened species is higher – 15.5% (37 species). Three species of non-marine turtle (25%) are threatened. Habitat loss and degradation have by far the largest impact on both threatened and non-threatened species, currently affecting 38 of the 46 threatened species, and almost 200 reptile species overall (Figure 2.24). Over-harvesting has the next largest impact, currently affecting 81 species, 14 of them threatened. Human disturbance, pollution and invasive alien species are also significant threats for some species. Many species, mainly snakes, are persecuted, but only a few of them are threatened. Likewise, vehicle collision impacts several snake and turtle species, but not normally at levels that cause them to qualify as globally threatened species. Invasive alien species impact a small number of reptile species, but a relatively high proportion of these are threatened. Invasive alien species impact a small number of reptile species, but a relatively high proportion of these are threatened.

Fig. 2.24 – Main threats to reptiles in the Mediterranean Basin - IUCN



### Amphibians

25.5% of the Mediterranean amphibian species are threatened, with 0.9% Critically Endangered, 12.1% Endangered and 12.1% Vulnerable. The overall threatened status of amphibians is much higher than that for reptiles (13%) in the Mediterranean basin, although the percentage of Critically Endangered amphibians is less than that for reptiles (3.7%). Just one amphibian species is Critically Endangered, *Lyciasalamandra billae*, compared with 13 reptile species. So although amphibians as a class are almost twice as threatened as reptiles, the number of species on the brink of extinction is much higher among reptiles. The percentage of threatened amphibian species in the Mediterranean basin is less than the global average of 32.5% (Stuart et al., 2004). A total of 57.5% (61 species) of amphibians are assessed as Least Concern, and no species are Data Deficient (compared with 5.4% of reptiles). One species is listed as Extinct, the painted frog from Israel / Palestine, *Discoglossus nigriventer*. Habitat loss and degradation have the largest impact on both threatened and non-threatened species, currently affecting 19 of the 27 threatened species, and 86 amphibian species overall. However, pollution also has a major impact, and it currently affects 67 species, 13 of them threatened. Invasive alien species have the next largest impact, currently affecting 38 species, six of them threatened. Over-harvesting, natural disasters, human disturbance and disease are also significant for some species (see Figure 2.25). Unlike reptiles, persecution and vehicle collision have very little impact. There is a risk that the disease chytridiomycosis could become a more serious threat to amphibians in the Mediterranean basin in the future. This disease has been implicated in catastrophic amphibian declines in many parts of the world. If this fungal disease starts to become as pathogenic to Mediterranean amphibians as it has done to species elsewhere in the world, then it could rapidly become a much more serious threat.

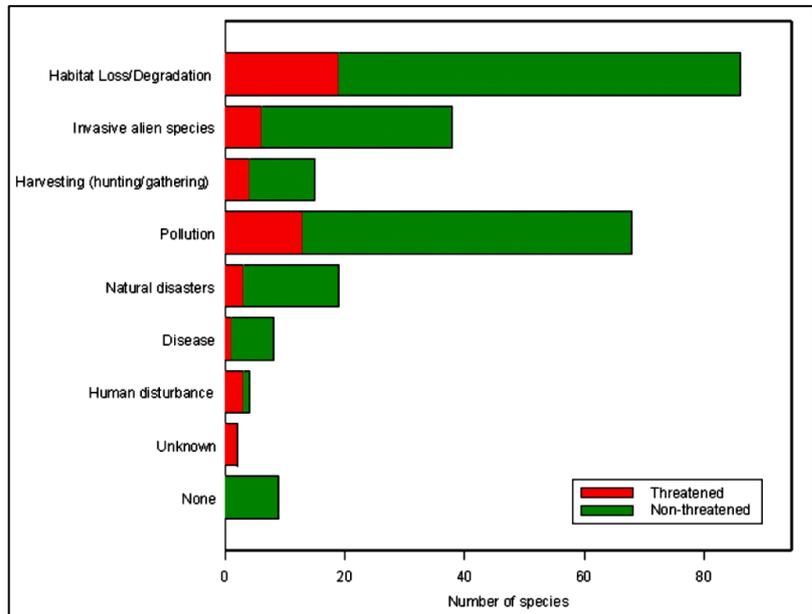


Fig. 2.25 – Main threats to amphibians in the Mediterranean Basin - IUCN

### Marine fish

According to the last IUCN report, 43 species out of the 519 native marine fish species and subspecies (8%) were classified in threatened categories (Critically Endangered, Endangered or Vulnerable). Of the 15 (3%) most threatened species (assessed as Critically Endangered), 14 (93%) are sharks and rays. Thirteen species (2.5%) are listed as Endangered, 9 of these being sharks and rays, while 15 species (3%) are considered Vulnerable, of which 8 of sharks and 7 bony fishes. An additional 22 species (4%), including 10 sharks and rays, are listed as Near Threatened. Almost one-third (151 species) of the Mediterranean marine fishes were listed as Data Deficient. Therefore, were more data will be available, the proportion of threatened species might be higher. Seventy-four marine fish species (14%) were considered to be endemic to the Mediterranean Sea. These endemic species are more frequently found in the western half of the Mediterranean Sea, especially around the Ligurian, Tyrrhenian and Tunisian coastlines. Four of these endemic species (5%) are threatened, including one ray (*Leucoraja melitensis*, Critically Endangered) and three bony fishes (*Pomatoschistus tortonesei* and *Syngnathus taenionotus*, both Endangered, and *Opeatogenys gracilis*, Vulnerable). Two endemic species (the speckled skate *Raja polystigma* and the narrow-snouted pipefish *Syngnathus tenuirostris*) are listed as Near Threatened. More than 40% (30 species) of Mediterranean endemic marine fishes are listed as Data Deficient, suggesting that more

information is needed.

The report states that protection and effective management plans are urgently required. Regional conservation management, such as the designation of 'no-take zones' or the creation of effective marine protected areas, should be implemented to reduce pressures on fish populations and safeguard critical fish habitats. A further recommendation put forward by the report, which assumes particular importance in the context of the ENI MED Programme, is that regional collaboration, especially among the southern and eastern Mediterranean countries, should be strengthened. Information is still lacking from many countries, particularly those bordering the southern and eastern shores of the Mediterranean Sea. It is essential that this strong regional cooperation continues and that new collaborations with other countries are forged, so that the work carried out to produce this first evaluation of the threat status of native Mediterranean marine fishes can be consolidated and updated as new information becomes available.

### 2.1.4.3 Habitats

Unlike species, no consistent datasets on habitat conservation status are available for the whole Mediterranean Region. However, in the EU countries, detailed information is collected by Member States pursuant art. 17 of the Habitat Directive (92/43/EC). Together with the "Birds Directive", these two pieces of legislation form the basis of the whole EU biodiversity and conservation policy. The Habitats directive requires Members States to monitor the conservation status of habitats and report on that every six years. The last report was released in May 2015 and covers the period 2007-2012. Information reported in this section is based on this recent report<sup>43</sup> and on data underlying it, available on the website of the European Environmental Agency (EEA)<sup>44</sup>.

Habitats conservation status is classified in one of the following classes:

- 'Favourable' (FV): the habitat or species is prospering (in both quality and extent/population) and this trend is expected to continue in the future
- 'Unfavourable-inadequate' (U1): change in management or policy is required to return the habitat/species to favourable status but there is no danger of extinction in the foreseeable future
- 'Unfavourable-bad' (U2): habitats in serious danger of becoming extinct, at least regionally.
- XX Unknown (not enough data to make an assessment)

The whole Europe is subdivided in nine different Biogeographical Regions including a Mediterranean One. Data referred to the Mediterranean Bioregion were extracted from the whole dataset and are used here as a proxy for the whole Mediterranean Basin.

Overall, 505 habitats assessments in the Mediterranean Bioregion (MED) were provided by Member States (terrestrial habitats). Aggregated results show that 35% of habitats are in favourable conservation Status, 40% are assessed as 'Unfavourable-inadequate' (U1) whilst 17% are considered 'Unfavourable-bad' (U2). Unknown assessment are 8% of the total. Compared to the rest of habitats in other Bioregions of Europe, the status of Mediterranean habitats is relatively better. Summing up all other habitats assessment, it results that the proportion of FV, U1, U2 and XX is respectively 23.5%, 41.8%, 30.4% and 4.3%

<sup>43</sup> <http://www.eea.europa.eu/publications/state-of-nature-in-the-eu>

<sup>44</sup> <http://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-ec-1>

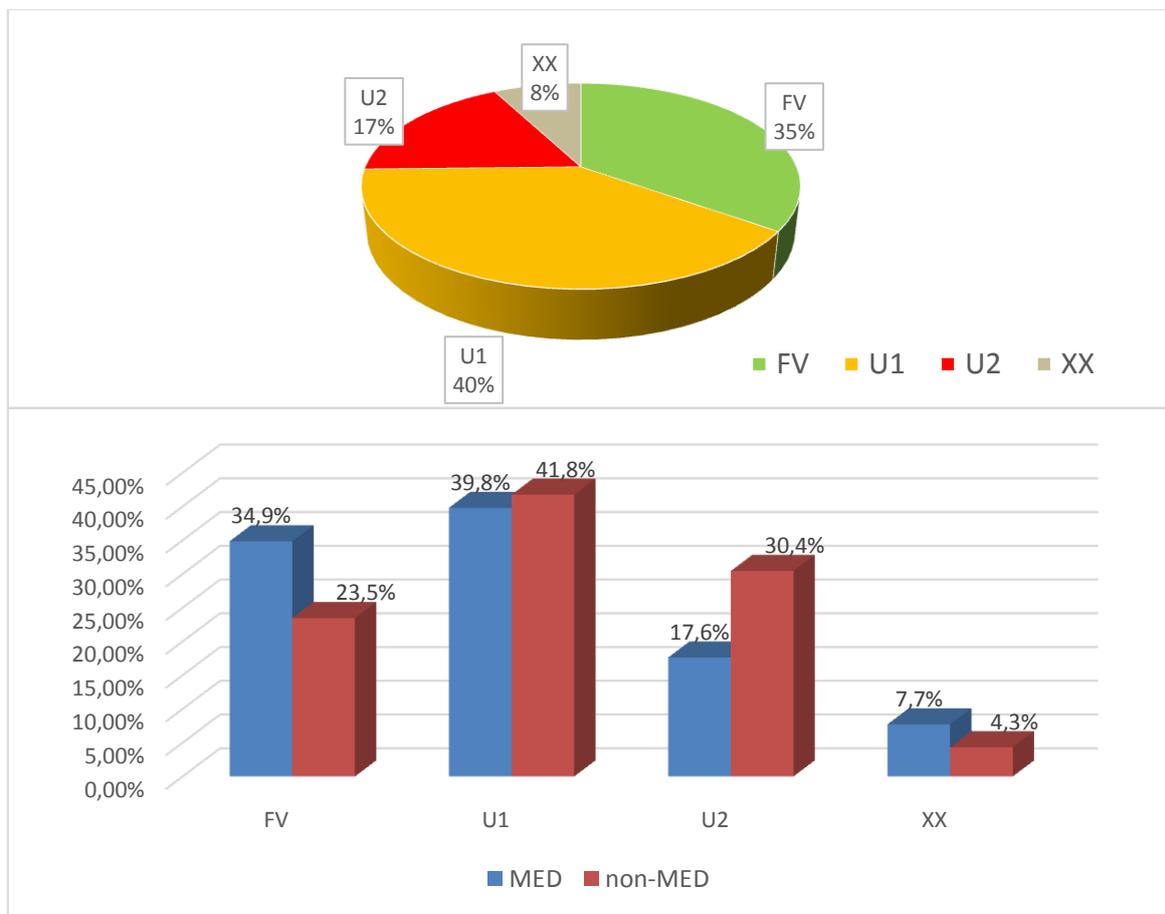


Fig. 2.26 – Conservation Status of terrestrial habitats in the Mediterranean Bioregion (above) and in the rest of Europe (below)<sup>45</sup>

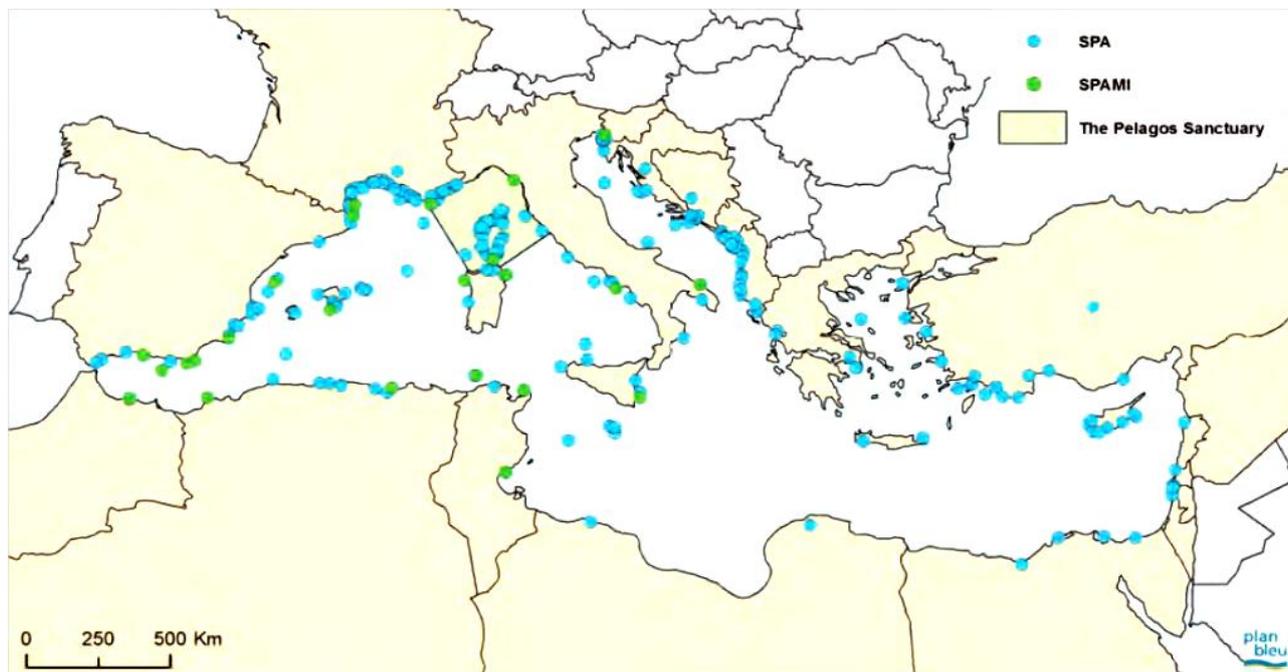


Fig. 2.27 – Specially Protected Areas and Specially Protected Areas of Mediterranean Interest, 2009<sup>46</sup>

<sup>45</sup> Sources: <http://www.eea.europa.eu/publications/state-of-nature-in-the-eu>

<sup>46</sup> Sources: SPA/RAC, Plan Bleu

Member states also reported assessments on conservation status of marine habitats of the Marine Mediterranean Bioergion. Results indicate that on a totality of 46 assessments, favourable and Unfavourable inadequate assessment are equally represented with 32.6% of occurrences. Unfavourable bad habitats make up 13% of the total whilst there is a high proportion of unknown assessments (21.7%).

Member States also had to report about the main pressures and threats affecting habitats conservation status. Pressure are factors that are currently acting on the habitats, whilst threats are pressure that are expected to act in the next future.

The 10 most recurrent pressures and threats (in terms of numbers of occurrences) reported by Member States for Mediterranean habitats are the following ones:

- Grazing
- Urbanised areas, human habitation
- Cultivation
- Roads, paths and railroads
- invasive non-native species
- Mining and quarrying
- Outdoor sports and leisure activities, recreational activities
- Discharges
- Trampling, overuse
- forest planting on open ground
- Biocenotic evolution, succession
- Sport and leisure structures

For marine sites of conservation importance, over the last 10 years, the WWF Mediterranean Program has devoted significant efforts in identifying the marine priority areas on the basis of morphological mapping and the presence of key threatened species (mostly turtles and monk seal; Franzosini *et al.* 2001). The analysis was coastal (to 200 meters depth) and did result in the identification of 13 priority marine areas (Figure below). While these sites are too big to be taken as key biodiversity areas, there is a significant overlap between the regions identified here and the site outcomes presented in the ecosystem profile.

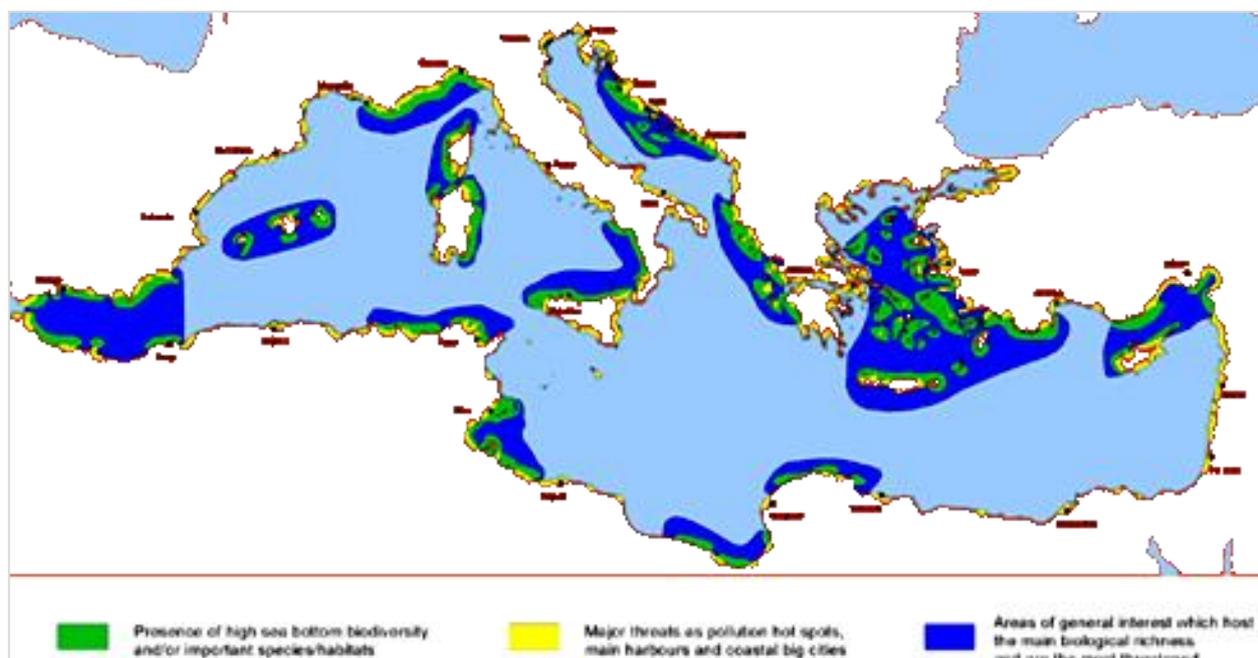


Fig. 2.28 – Location of 13 Priority Marine Areas in the Mediterranean Sea<sup>47</sup>

<sup>47</sup> Source: WWF Mediterranean Program Office

## 2.1.5 Landscape and cultural heritage

The Mediterranean area is one of the most significantly altered hotspots on Earth, since it has been intensively affected by human activity for millennia. As a result, only 4.7% of its primary vegetation remained unaltered and the landscape has been repeatedly transformed.

Many centuries of interactions between natural and human induced processes have created a complex landscape mosaic in the Mediterranean Basin (Bratina-Jurkovič 2011). This evolution has been shaped by major historical developments. In recent times, the period of population growth, industrialization and technical and technological advances following the Second World War precipitated major land-use changes, especially increased urbanization and agricultural intensification.

New pressures on Mediterranean ecosystems came with these changes, including increased need for arable land and fresh water and increased demand for land and sea transportation.

The expansion of urbanized and cultivated land and marine traffic caused multiple impacts, including habitat loss, reductions in freshwater and sediment discharges by rivers, salinisation of coastal aquifers, soil and coastline erosion and eutrophication of some coastal waters. These continuing pressures and their associated impacts now threaten natural and cultural landscape integrity and diversity in the region, altering the fine-grained and multifunctional landscape and limiting options for sustainable development.

In the Mediterranean Basin, the areas that have experienced the most human-induced change are those most intensively exploited due to ready availability of the natural resources needed for settlement. Deltas are good examples, with low-lying terrain suitable for construction of dwellings, arable land, freshwater resources and easy access to the sea.

The population and economies of all Mediterranean Basin countries have grown considerably in the last 50 years, which has been accompanied by expansion of urban areas and creation of new ones, industrial and commercial developments, and associated infrastructure, particularly transportation systems, and the development of one of the world's largest tourism industries focused on the coastal areas. Much of this development has occurred without proper planning and has led to the destruction and degradation of huge areas of natural habitats, and resulted in a complete change to the coastal landscape and character of many Mediterranean coasts.

Main impacts in the hotspot include:

- Pollution from untreated sewage from residential and tourism developments and contamination from industrial sites.
- Clearance of natural vegetation for construction of housing, hotels and resorts, commercial complexes, and roads, agricultural expansion and intensification.
- Clearance, dredging, channelization or in-filling of coastal wetlands (lagoons, estuaries, coastal marshes) for marinas and ports and agricultural areas.
- Sand mining and beach and dune erosion.
- Increased consumption of water from surface and ground water sources leading to salt intrusion (which is likely to get worse with predicted sea level rises), receding deltas (50 meters/year in the Ebro; Plan Bleu 2006) and changes in ecosystem function, and decreased availability of water supplies.
- Dam construction for energy.
- Loss of natural habitats due to mining.

Although all these have been a major force for economic growth and some improvements in human well-being in the region, their negative impacts on the environment and ultimately their sustainability have not been properly considered.

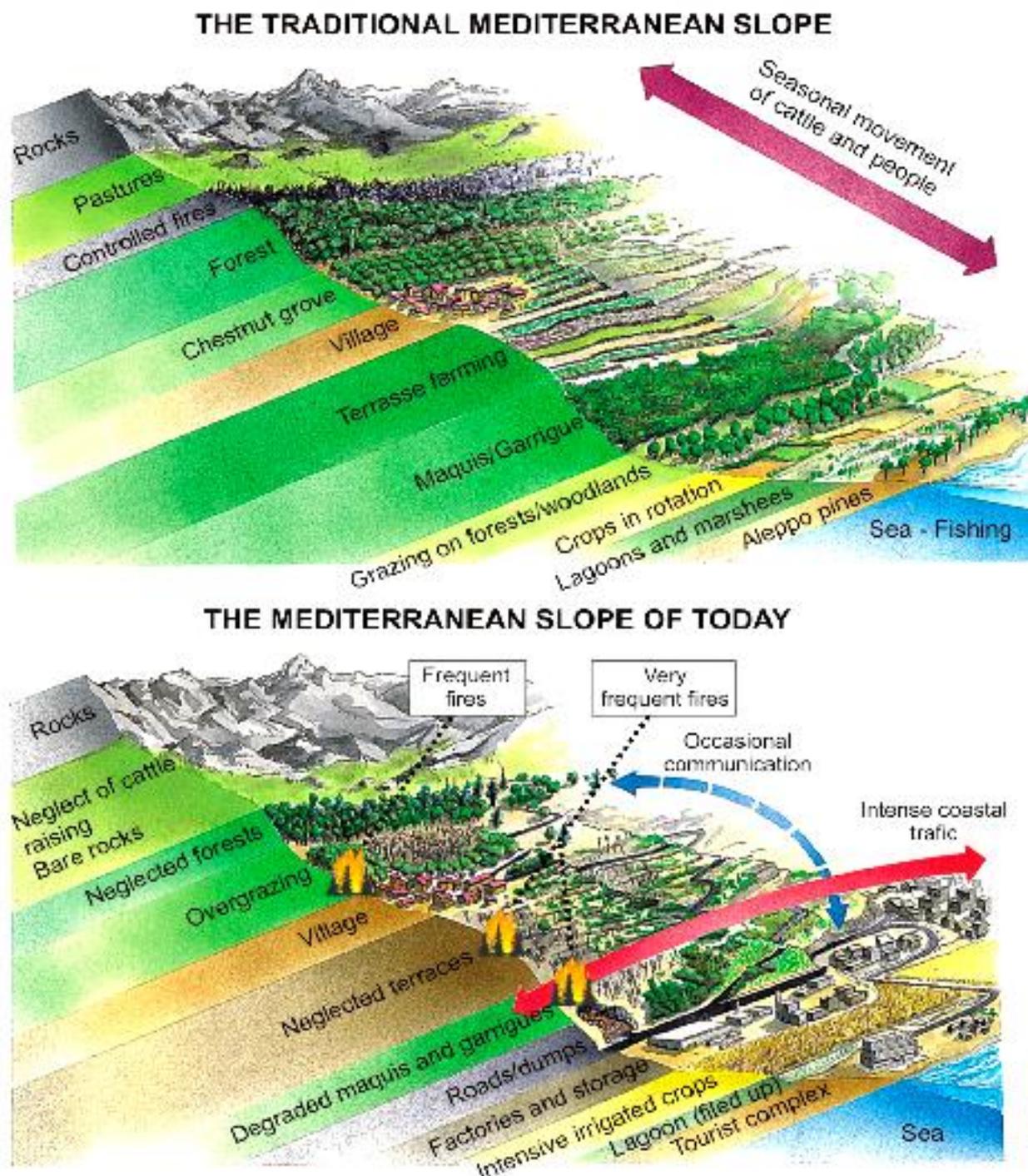


Fig. 2.29 – Summary of the Evolution of the Mediterranean Coastal Landscape over the Last 50 Years <sup>48</sup>

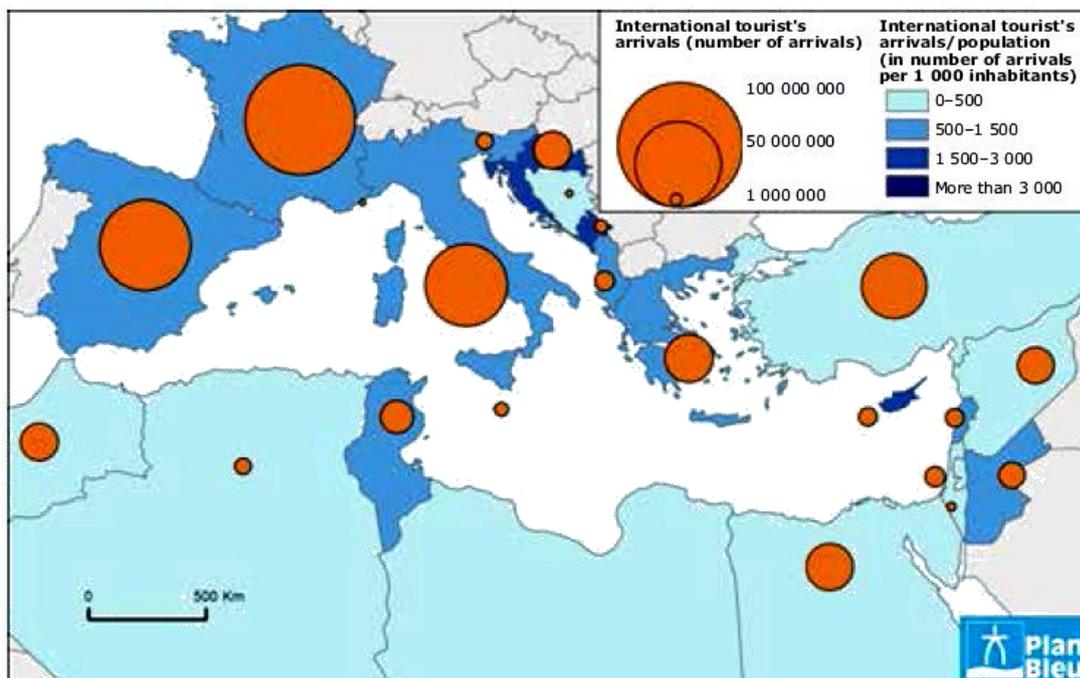
<sup>48</sup> Source: PlanBleu, 2006

## 2.2 Pressures

### 2.2.1 Tourism

The Mediterranean basin is one of the most popular tourist destinations in the world due to its natural, historical and cultural characteristics and it attracts almost a third of the world's international tourists (306 million out of 980 million worldwide). During the last decades the tourists' presence increased from 58 millions of international arrival in 1970, to 283 millions in 2011 and in 2025 the projected tourist arrivals will reach 637 millions.

In terms of international tourist arrivals compared to the national population, the situation in the ENP-South countries also differs from that of the EU Med region: while in Algeria international tourist arrivals are ~ 50 per 1 000 inhabitants, in Jordan and Tunisia, it reaches between 650 and 750 per 1 000 inhabitants, comparable to popular EU destinations.



**Fig. 2.30 – International tourists arrivals (2010) in millions, and in number of tourists per 1 000 inhabitants<sup>49</sup>**

Tourism represents an important economic sector, particularly for regions with limited industrial or agricultural development, for an average of 6% of the GDP of the area and in 2012 contributes directly to 7.7 million jobs and indirectly, through ancillary sectors, to almost 20 million jobs. While in the Northern shore advanced economies countries like France, Spain and Italy account for approximately 65% of the tourist flows to the area and 66% of the total tourist receipts, the emerging economy destinations, like the Eastern Mediterranean, North Africa and the Middle East countries, account for a smaller percentage of the total, but they are growing much faster. In terms of contribution to GDP (2011), tourism share of the GDP is higher in Malta (13.9%), Greece (6.5%) and Cyprus (6.1%) as for European Countries, and in Lebanon (9.3%), Morocco (8.7%), Tunisia (7.3%) and Egypt (6.9%) as for Mediterranean Partner Countries.

The 81,1% of tourists in 2010 were of European origin, followed by the 6,4% of Middle East tourists and the

<sup>49</sup> Source: World Tourism Organization, 2013

5,7% of Americans.

	International Tourist Arrivals <sup>(1)</sup>					International Tourist Receipts <sup>(1)</sup>			Contrib. to GDP <sup>(2)</sup>	Nr direct jobs <sup>(2)</sup>		Nr indirect jobs <sup>(2)</sup>
	thousands			% change		USD, millions			%	thousands	% of total	
	2009	2010	2011	10/09	11/10	2009	2010	2011	2012	2012	2012	2012
<b>MEDPC</b>												
Algeria	1,912	2,070	2,395	8.3	15.7	267	219	..	3.7	342	3.4	698
Egypt	11,914	14,05	9,497	17.9	-32.4	10,755	12,528	8,707	6.9	1375	5.9	3106
Israel	2,321	2,803	2,821	20.8	0.6	3,741	4,768	4,849	2.3	81	2.7	252
Jordan	3,789	4,557	3,975	20.3	-12.8	2,911	3,585	3,000	5.9	87	5.1	333
Lebanon	1,844	2,168	1,655	17.6	-23.7	6,774	8,012	..	9.3	120	9	322
Libya	..	..	..	..	..	50	60	..	2	28	1.9	53
Morocco	8,341	9,288	9,342	11.4	0.6	6,557	6,703	7,307	8.7	829	7.6	1811
Palestine	396	522	446	31.9	-14.5	410	667	..	..	..	..	..
Syria	6,092	8,546	5,070	40.3	-40.7	3,757	6,19	..	4.7	200	4	489
Tunisia	6,901	6,902	4,782	0.0	-30.7	2,773	2,645	1,805	7.3	237	6.6	454
Turkey	25,506	27,000	29,343	5.9	8.7	21,251	20,807	23,02	4.1	516	2.1	2053
<b>EUPC</b>												
Cyprus	2,141	2,173	2,392	1.5	10.1	2,18	2,153	2,52	6.1	26	7	77
France	76,764	77,15	79,500	0.5	3.0	49,528	46,56	53,85	3.8	1189	4.4	2924
Greece	14,915	15,01	16,427	0.6	9.5	14,506	12,742	14,62	6.5	330	8.8	689
Italy	43,239	43,63	46,119	0.9	5.7	40,249	38,786	43	4.1	1099	4.8	2681
Malta	1,182	1,336	1,412	13.0	5.6	892	1,079	1,265	13.9	25	15.1	45
Portugal	6,479	6,832	7,432	5.4	8.8	9,635	10,077	11,34	5.7	325	7	860
Spain	52,178	52,68	56,694	1.0	7.6	53,177	52,525	59,89	5.4	894	5.2	2691
Sources <sup>(1)</sup> UN-World Tourism Organization, World Tourism Highlight, 2012 Edition												
Sources <sup>(2)</sup> World Travel and Tourism Council, Travel and Tourism Economic Impact												

**Tab. 2.31 – International tourist arrivals, receipts, contribution to GDP and nr. of jobs**

Even though tourism represent an important driver for growth because has the potential to contribute to environmental protection and conservation, to raise awareness of natural values and to create new job opportunities, it can also cause great pressure on natural resources and generate negative environmental impacts in terms of:

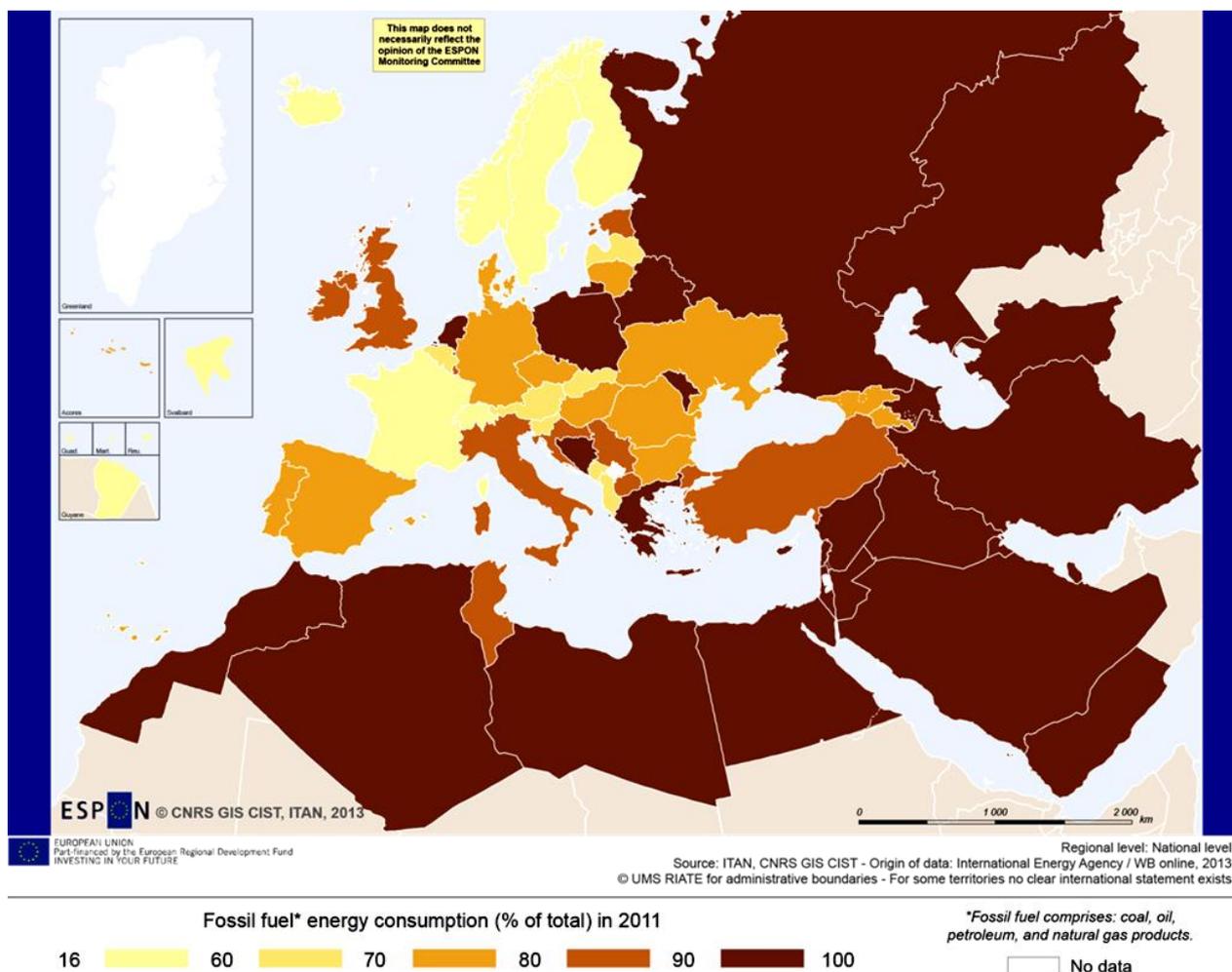
- increase of water consumption and wastewater production;
- increase of waste generation;
- increase of energy use and GHG emissions, mainly related to transport infrastructures;
- soil consumption and loss of natural habitats;
- alteration of coastal ecosystems and landscapes through the realization of new infrastructures and facilities;
- disturbance to flora and fauna.

Mediterranean tourism is heavily seasonal, peaking during the summer, and coastal, with more than half of all visitors concentrated along the coastal strip, but also includes a noticeable flow of visitors composed by emigrants returning to their homelands during the holiday.

This concentration of tourism strongly amplifies the impacts on the environment and for these reasons it is important to assess the tourism-carrying capacity of a destination, analyzing its physical, ecological, socio-demographic and economic dimensions.

## 2.2.2 Energy

A development and growth model based exclusively on fossil fuels is considered unsustainable: as a matter of fact, non-renewable stocks, scarcity risks and volatile prices, combined with impacts on climate through green house gas (GHG) emissions, are pushing Governments to move away from fossil fuels.



**Tab. 2.32 – Fossil fuel energy consumption<sup>50</sup>**

GHG emissions due to CO<sub>2</sub> connected with energy use are over 70% in the Mediterranean (accounting for around 7% of the World's total CO<sub>2</sub> emissions). In particular, focusing on Mediterranean Partner Countries (MPCs) and to European Partner Countries (EUPCs), CO<sub>2</sub> emissions increased in the MPCs at a rapid pace (+17%, over the period 2005-2009), while the EUPCs experienced a reduction in total emissions (-12%, over the same time span).

The MPCs share of the total CO<sub>2</sub> emissions generated in the Mediterranean area increased to 43% in 2009 (from 36% in 2005) and is destined to further augment to reach about 50% by 2025, according to the Mediterranean Energy Organisation (MEO).

<sup>50</sup> Source: ITAN - CIST/Université Paris Diderot

	CO2 emissions (kt)		CO2 emissions (metric tons per capita)		Electricity production from hydroelectric sources (% of total)	Electricity production from oil, gas and coal sources (% of total)	Electricity production from renewable sources, excluding hydroelectric (% of total)	Electricity production from nuclear sources (% of total)	Fossil fuel energy consumption (% of total)	
	2009	2005	2009	2005					2005	2010
<b>MPCs</b>										
Algeria	121311,69	107127,74	3,3	3,2					99,5	99,8
Egypt	216136,65	174640,88	2,8	2,4					96,0	96,3
Israel	67216,11	59211,049	9,0	8,5					96,8	96,4
Jordan	22548,383	21026,578	3,8	3,9					97,9	96,0
Lebanon	20967,906	16391,49	4,9	4,1					94,4	95,1
Libya	62874,382	52100,736	10,5	9,3					99,3	99,1
Morocco	48815,104	45760,493	1,6	1,5					95,2	92,9
Palestine	2163,53	2742,916	0,6	0,8					98,5	99,1
Syria	65312,937	50633,936	3,1	2,8					86,3	85,8
Tunisia	25155,62	22801,406	2,4	2,3					88,1	89,0
Turkey	277844,92	237368,58	3,9	3,5					97,4	95,3
<b>Total</b>	<b>930347,24</b>	<b>789805,79</b>								
<b>EUPCs</b>										
Cyprus	8199,412	7502,682	7,5	7,3	0,4	99,6	0,0	0	97,6	1,3
France	363355,7	391826,28	5,6	6,2	8,9	90,1	1,0	0	11,0	9,9
Greece	94916,628	98675,303	8,4	8,9	0,0	99,7	0,2	0	13,0	81,4
Italy	400836,1	473380,36	6,7	8,1	0,4	99,5	0,1	0	17,1	73,3
Malta	2497,227	2698,912	6,0	6,7	5,3	94,7	0,0	0	0,0	100,0
Portugal	57399,551	65309,27	5,4	6,2	0,0	100,0	0,0	0	30,1	46,6
Spain	288229,87	353462,13	6,3	8,1	15,5	81,5	3,0	0	14,1	46,5
<b>Total</b>	<b>1215434,5</b>	<b>1392854,9</b>			24,5	73,6	1,9	0		

Tab. 2.32 – CO2 emissions, electricity production, fossil fuel energy consumption for Mediterranean Partner Countries and for European Partner Countries of the Med Programme <sup>51</sup>

Electricity and heating are the main contributor to the rise in emissions in the MPCs. In the EUMCs, the chief contributor is the transport sector.

There is an international consensus over the need to control global warming: in 2010, at the United Nations Climate Change Conference held in Cancun, Mexico, the international community formally agreed to limit global warming to 2°C from the pre-industrial level.

On the other hand, energy demand has grown by 1.8% per year from 1990 to 2009 – driven by transport in the EUPCs and by industrial and residential sectors in MPCs – and is projected to increase by less than 1.7% per year on average until 2030; therefore, it becomes imperative to try to satisfy these growing needs but at the same time comply with international obligations and tackle economic sustainability issues (related to scarcity and price volatility). If today energy demand is higher in the EUPCs (more than two-thirds), the trend is going to reverse in 2030 driven by population growth, combined with a rapid urbanization rate and important socio-economic development needs in the MPCs.

Total energy demand is marked by the growth of demand in electricity, at a much faster pace than GDP, growth of demand on primary energy or population growth. According to MEDPRO, electricity is likely to be multiplied by 2.6 between 2006 and 2025 in the MPCs, due in particular to a tripling of consumption in Turkey, Tunisia and Algeria and a doubling in Egypt and Morocco <sup>52</sup>.

Today the Mediterranean region is still largely dependent on fossil fuels: its consumption in 2010 accounted for around 95% of the total in the MPCs and 82% in the EUPCs (decreasing from 86% in 2005). The Mediterranean has a 44% import dependence ratio, nearly half of which is oil. In the North, more than

<sup>51</sup> Source: World Bank, WDI

<sup>52</sup> Manfred Hafner, Simone Tagliapietra and El Habib El Andaloussi, *Outlook for Electricity and Renewable Energy in Southern and Eastern Mediterranean Countries*, 2012.

90% of fossil fuels are imported while the South enjoys an export capacity of 26%.

In this framework, renewable energies – which represent a natural competitive advantage for the area – offer large potential for emission reductions, together with energy efficiency improvements.

Today, REs account only for a limited share of the region's primary energy supply (8% in 2009), while around 18% of electricity supply originate from renewable energy.

Traditionally, the most exploited renewable energy sources have been biomass and hydropower.

However, among renewable energies, hydropower production is affected by the climate, while solar energy resource is larger than all other renewable energy resources. Therefore, solar energy has a significant growth potential and is projected to provide more than 10% of global electricity by 2050 (IEA, 2010). Also, **wind energy has the potentials to become an important source of energy in the near future, especially in the MPCs.** Red Sea coasts and some parts of the Sahara Desert can be suitable locations for large-scale wind farms, as the wind speed in these areas exceed 6.9 meters/second and reaching 11 meters/second in some areas.

Solar energy, i.e. solar photovoltaic (PV), concentrating solar power (CSP) and solar heating, is exhibiting the fastest growth of any energy technology in the last ten years, although from a very low basis. Deployment more than doubled in 2010 despite the global financial and economic crisis, largely as a result of feed-in tariffs.

Due to a drop in costs, it is expected to reach competitiveness on a large scale in less than ten years, but today solar electricity in most markets is not yet able to compete without specific incentives.

Solar thermal electricity (STE) and solar photovoltaic electricity (PV) are competitive against oil-fuelled electricity generation in sunny Countries, usually to cover seasonal demand peaks, and in many islands.

In particular, PV is developing rapidly. Roof-top PV in sunny countries can compete with high retail electricity prices. PV is fast to install and can be built close to the consumers; moreover, PV off-grid systems are well suited to providing access to energy in rural areas, thus enabling improved healthcare and economic opportunities to rural population.

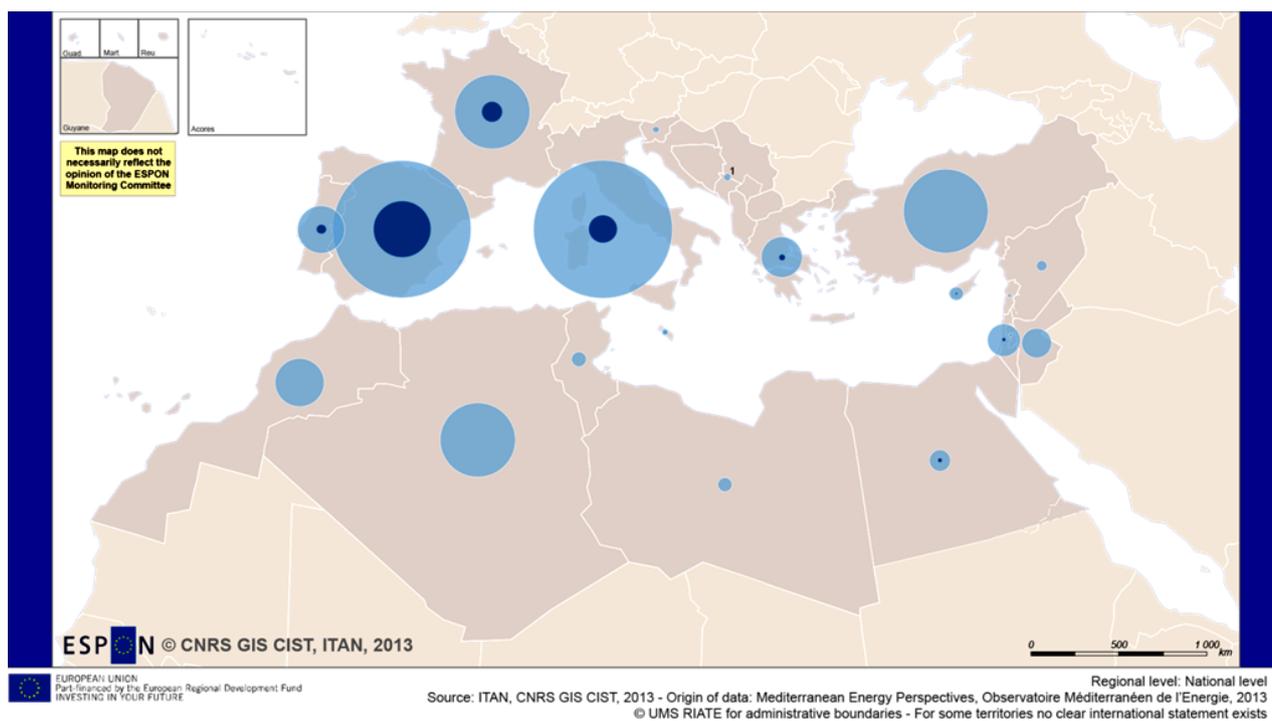
Solar thermal electricity (STE) allows shifting the production of solar electricity to peak or mid-peak hours in the evening, or spreading it to base-load hours round the clock. STE today is based on concentrating solar power (CSP) technologies. CSP lags behind (even if a new wave of CSP plant has been built in Spain and smaller plants in Algeria, Egypt, and Morocco in 2005) but, thanks to heat storage, offers considerable potential. The reinforcement of the electrical interconnection between MPCs as well as between the Southern and Northern shores of the Mediterranean is a key issue, in order to transport clean energy from the Southern shores to the Northern ones, but also intra-MPCs interconnections are needed and several connections are under construction<sup>53</sup>. While very high penetration of PV requires large-scale investment in electricity storage, such as pumped-hydro plants, high penetration of STE does not. Differently from PV, STE is more suitable for utility-scale plants and can enable more variable renewable energy (i.e. wind power and solar PV) in the electricity mix on grids. As such, STE complements PV rather than competing with it<sup>54</sup>.

Biomass converting technologies for agricultural wastes can represent an additional potential area of development.

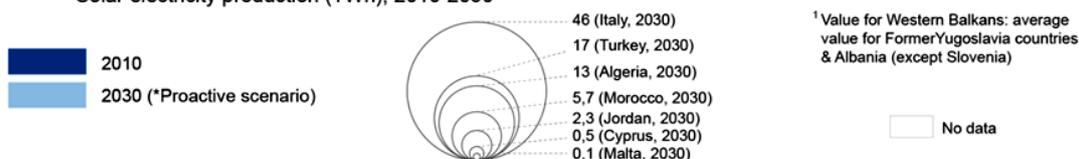
Renewable energies represent also an opportunity in terms of job generation capacity. Indeed, according to the UN and the ILO, solar photovoltaic plants use on average seven times more labour than coal-fired plants to produce the equivalent quantity of megawatt hours, while wind power uses on average 1.83 times more labour than natural gas.

<sup>53</sup> The Maghreb interconnected grid is connected to the European one through Morocco and Spain. The Turkish is being connected to the European grid as well.

<sup>54</sup> International Energy Agency, Solar Energy Perspectives, 2011.



Solar electricity production (TWh), 2010-2030\*



Statistical data for Cyprus refer only to the areas under effective control of the Government of the Republic of Cyprus.

Tab. 2.32 – Fossil fuel energy consumption<sup>55</sup>

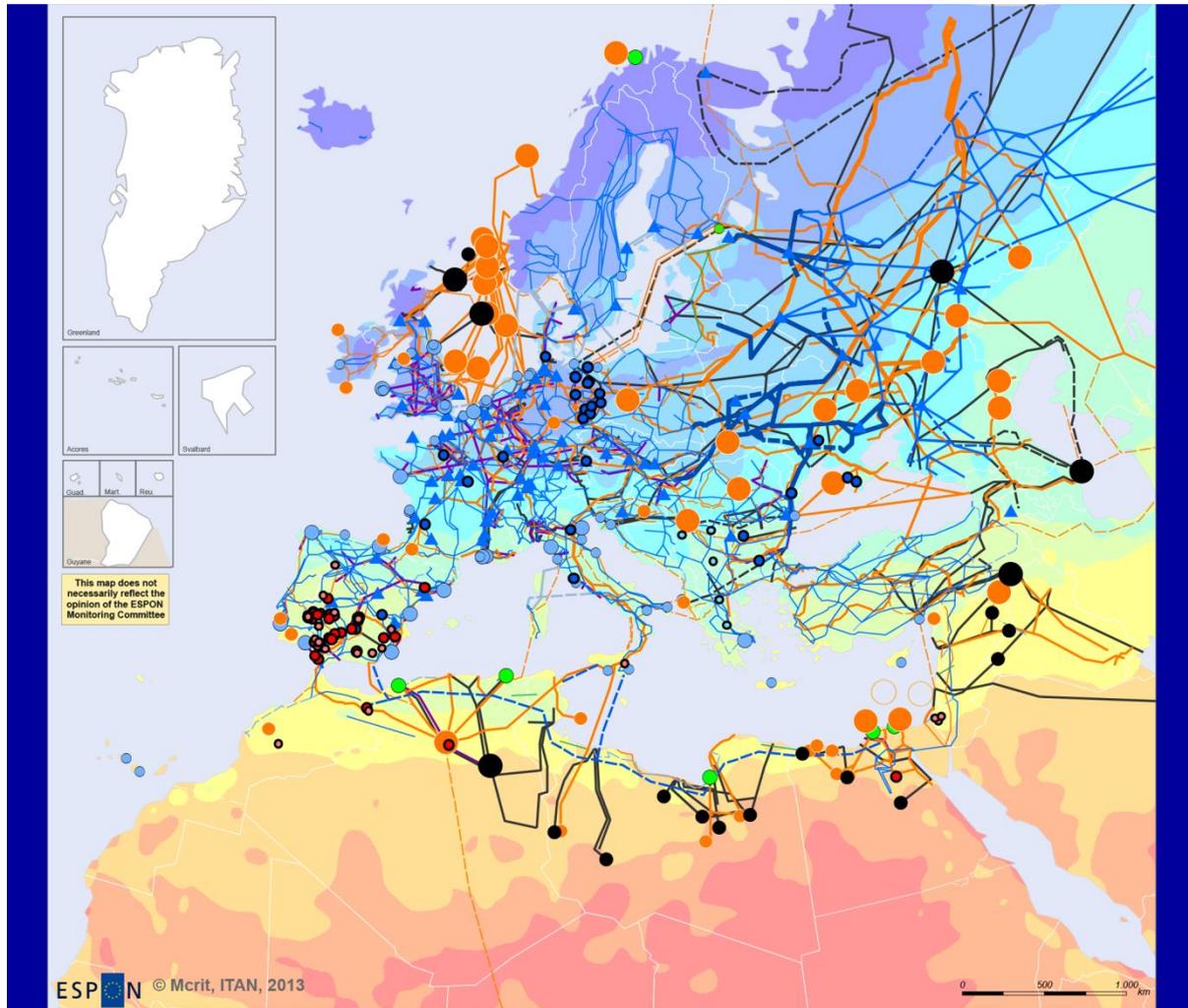
The Countries across the Mediterranean region have different legal and regulatory frameworks relating to renewable energy. The EUPCs are committed to quite stringent policy objectives through the European Union: the 2009 Directive on renewable energy has set targets for all Member States, such that the EU will reach a 20% share of energy from renewable sources by 2020 and a 10% share of renewable energy specifically in the transport sector.

At the Euro-Mediterranean level, the Union for the Mediterranean has launched a Solar Plan in 2008, that has two complementary targets: developing 20 GW of new renewable energy production capacities, and achieving significant energy savings around the Mediterranean by 2020, thus addressing both supply and demand.

Several South Mediterranean Countries have defined their own renewable energy plans with a view to achieve energy diversification, Algeria, Israel and Tunisia issued legislation and created agencies focused on energy efficiency as early as in the mid-80s. However, failures to implement financial incentives for renewable energies and disproportionately high subsidies to fossil fuels have so far the main obstacles to create an internal market for renewable energies in MPCs.

Another field at the local dimension (cities) is linked to energy efficiency (EE) in residential buildings. The buildings sector represents approximately one third of total energy consumption in MPCs and 40% of the European Union's total energy consumption. In this respect, Europe has issued an ad hoc Directive on the Energy Performance of Buildings and MPCs have recently adopted regulations in this area (Algeria, Egypt, Turkey, Tunisia, Jordan, Palestine, Syria and Lebanon), to set parameters for energy efficiency in new buildings and have launched pilot projects.

<sup>55</sup> Source: ITAN - CIST/Université Paris Diderot



ESPON © Mcrit, ITAN, 2013

Regional level: NUTS 2010 & SNUTS V1  
Source: ESPON Database, ESPON ITAN, Mcrit - Origin of data: ENTSO-E, Concawe, GIE, NASA SSE, MCRIT 2013 ITAN Database  
© UMS RIATE for administrative boundaries - For some territories no clear international statement exists

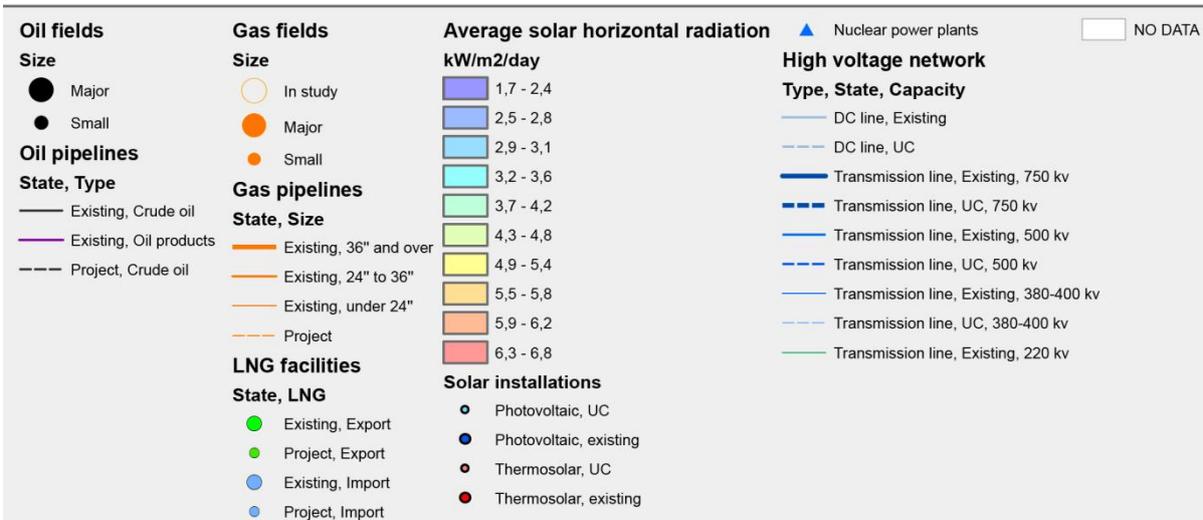
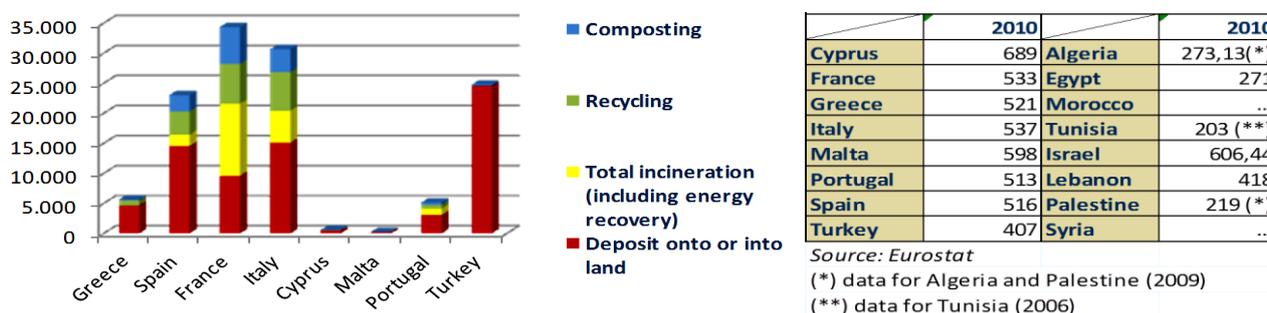


Fig. 2.33 – Fossil fuel energy consumption<sup>56</sup>

<sup>56</sup> Source: ITAN - CIST/Université Paris Diderot

## 2.2.3 Waste

Waste management is one of the cornerstones of planning and implementation of sustainable development, as it deals with the issue of preserving a healthy living environment for communities. Waste is an inevitable product of modern society; the bulk of relevant evidences and studies available in scientific and technical literature supports the argument that waste generation rate is strictly related to the level of development of a given community<sup>57</sup> and to its average income<sup>58</sup>. Municipal solid waste<sup>59</sup> generation is higher in urban areas and lower in rural areas, particularly in such areas of Mediterranean Countries where societies and economies are essentially based on agriculture. Similar geographic patterns apply to waste typologies, with prevalent organic municipal and agricultural waste in rural areas, where, however, communities usually show a lower awareness of the importance of a sound management of wastes.



**Fig 2.34 – Total municipal waste treated and Municipal waste per capita (kg)<sup>60</sup>**

Municipal solid waste generation in Europe has experienced a constant increase together with GDP from 1995 to 2002, and has then slowed down (with economic growth rate much higher than that of municipal waste generation, the latter registering an average increase of 0.2 %) and stabilised at about 520 kg/capita/year after 2002 and further reducing at 500 kg/capita/year (corresponding to 1.36 kg/capita/day) in 2011. Indeed, Europe succeeded in decoupling, that is in breaking the link between the production of material wealth and the production of waste. Anyhow, European Countries have room to further reduce their waste generation to align with EU countries average (500 kg/capita/year); this particularly refers to Countries as Malta, Cyprus Italy, and Spain.

In MPCs, estimations indicate a significant increase in municipal waste generation rate from 1998 to 2010 in MPCs. However, statistics and data on quantities of solid waste in most Arab countries are not available (only few data are available on municipal waste) and, moreover, different laws and regulations across the Countries do not allow for a comprehensive analysis. For instance, in Morocco and Tunisia, regulations distinguish between hazardous and non hazardous waste, but the waste generated by small crafts and industrial enterprises, and those generated by markets, are often mixed with domestic waste in most major cities (UNEP/MAP-Plan Bleu, 2009).

Inadequate management of wastes results in serious threats to public health and environment, such as infectious diseases, pollution of groundwater and surface waters, contamination of the soil, degradation of natural ecosystems; emissions of greenhouse gases or more harmful dioxins, etc.. These threats are of a huge variety and depend on waste typologies, which are usually classified and categorized according to what they are (i.e. the waste material, such as: paper and cardboard; glass; textiles; pesticides; paints;

<sup>57</sup> A strong statistical relationship ( $R^2 = 0.697$ ) has been observed between Municipal Solid Waste (MSW) per capita generation rate and Human Development Index ([http://www.atlas.d-waste.com/diagrams/Development/Waste\\_Generation\\_per\\_Capita\\_vs\\_HDI.html](http://www.atlas.d-waste.com/diagrams/Development/Waste_Generation_per_Capita_vs_HDI.html)).

<sup>58</sup> <http://www.medicities.org/docs/3%20Urban%20Waste%20generation%20and%20classification.pdf>

<sup>59</sup> Municipal solid waste comes from residential units, alongside commercial, service, educational and health facilities, streets, gardens, markets, hotels, and recreational places. It also covers waste of small factories and camps. It does not include *inter alia*: industrial waste, resulting from medium and large-scale industrial activities, construction and demolition as well as road building debris, health care waste from hospitals, health service units, residues of wastewater and industrial effluent treatment processes, Wastes from dredging canals and drains in the form of plant and animal residues, agricultural waste.

<sup>60</sup> Source: UNSD/UNEP - Eurostat environment statistics main tables and database

solvents; oil; mixed municipal waste; sewerage water) and how they were produced (i.e. the sources generating the waste, such as those listed in the European Waste Catalogue). In addition, waste has the potential to become beach and marine litter if not handled appropriately (recycled or disposed of properly), leading to environmental, but also socio-economic impacts. In general the European Countries have integrated management systems and have a 100% collection coverage of municipal solid waste, though with different level of effectiveness. With the exception of Malta, Cyprus and Greece, which still rely too much on landfill, European Countries handle municipal waste with a quite varied mix of technologies. Anyhow, European Countries still have to reduce the use of landfill with respect to other European Countries. Mediterranean Countries still need to significantly improve their performance in the management of waste, as they suffer from low collection coverage and high unsound disposal.

A consequence of the situation described above is the increase in marine litter. The main source of marine litter<sup>61</sup> in the Mediterranean is households. Other major sources are tourist facilities, municipal dumps, ships and pleasure boats. Most studies of marine litter in the Mediterranean have focused on beaches, floating debris and the seabed (UNEP/MAP 2012). They show that there is more marine litter in bays than in open areas (Galgani et al. 2010), and it is concentrated in shallow coastal areas rather than deeper waters (Koutsodendris et al. 2008). A large proportion of marine litter is plastics (UNEP 2009). The impact of large plastic material on the environment has been widely studied. Effects include entanglement of marine animals in plastic and ingestion of plastic by marine organisms (EEA and UNEP 2006). More attention is now being given to the impact of microplastics from such primary sources as feedstock in the plastics industry and from the breakdown of larger plastic items (GESAMP 2010). While evidence is growing that microplastics can also have negative effects on marine organisms, little scientific investigation has gone into the problem in the Mediterranean or elsewhere (GESAMP 2010). The additional challenge of microplastics is their small size, which makes them difficult to remove from the marine environment.

Around the world, marine litter kills more than a million seabirds and 100.000 marine mammals and turtles every year (UNEP/MAP 2012). Little information is currently available about the impact of marine litter on Mediterranean wildlife. The most significant effects come from entanglement in or ingestion of marine litter, especially plastics. Sea turtles in the Mediterranean, already seriously endangered through habitat loss and by catch, are further threatened by plastic marine litter, which they mistake for their main prey, jellyfish, and swallow (Galgani et al. 2010). The plastic can become lodged in the turtles' gastrointestinal tracts, resulting in injury or death.

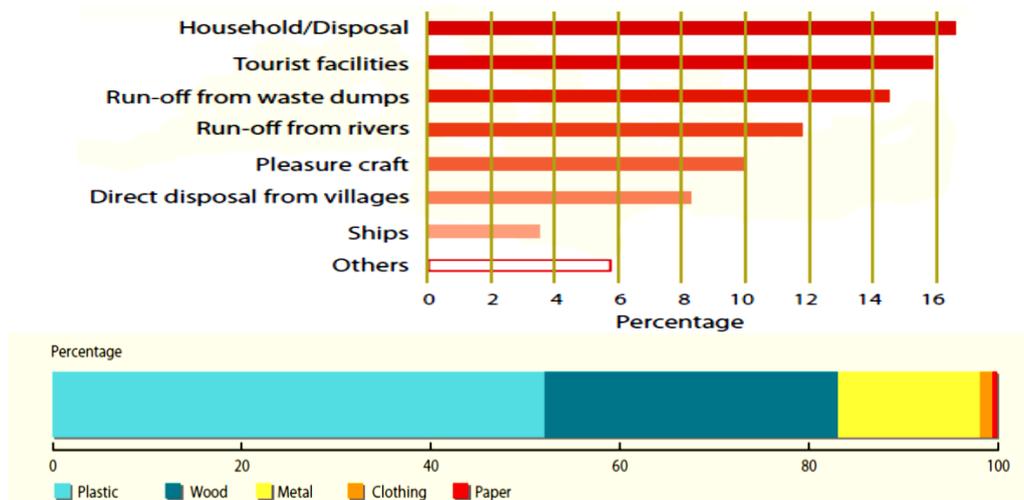


Fig 2.34 – Source of marine litter and major types of litter in the Mediterranean <sup>62</sup>

<sup>61</sup> Marine litter is “any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment.” It reaches the marine environment through deliberate disposal or unintentional discharge, either at sea or from land by way of rivers, drainage systems and wind”. Source: Galgani et al. 2010

<sup>62</sup> Source: UNEP/MAP, MEDPOL, Assessment of the Status of Marine Litter in the Mediterranean, 2011

## 2.2.4 Coastal zone pressures

There are number of perceptions of what constitutes coastal zone in the Mediterranean. However coastal zone, as defined and adopted by Contracting Parties to the Barcelona Convention, is clearly indicated within the new Protocol on **Integrated Coastal Zone Management** in the Mediterranean (2008). Coastal zone, therefore, "means the geomorphologic area either side of the seashore in which the interaction between the marine and land parts occurs in the form of complex ecological and resource system made up of biotic and abiotic components coexisting and interacting with human communities and relevant socio-economic activities".

The Mediterranean coastline is approximately 46,000 kilometres long, with nearly 19,000 kilometres of island coastline. 54% of that coastline is rocky and 46% is sedimentary coast that includes important and fragile ecosystems such as beaches, dunes, reefs, lagoons, swamps, estuaries and deltas.

Other than great natural heritage, Mediterranean is known for its cultural heritage as well. In 1987, the Mediterranean countries started an initiative of "100 historical coastal sites of Mediterranean-wide interest" of which 48 are UNESCO world heritage sites. As an attractive area, Mediterranean coastal includes numbers of countries' capitals and coastal cities. In 2008, the permanent population of the Mediterranean coastal states was approximately 460 million, with projection growth to 520 million by 2025. Projections for the coastal regions are approximately 186 million by 2025.

In addition, number of activities such as fisheries, industry, agriculture and tourism have been established and rapidly developed along the Mediterranean coastline. Maybe the most important activity in the Mediterranean Region is tourism development. Such intensified urbanisation and tourism development has led to significant pollution threats: inventories showed that there are 101 priority pollution hotspots, mainly resulting from land-based sources. In addition, there are about 200 large oil tankers navigating in the Mediterranean Sea daily posing another threat to marine life in the Mediterranean.

Low-lying sedimentary coasts are more dynamic than rocky coasts. The balance between sea-level rise, sediment supply and wave and coastal current regimes will determine whether the coastline advances (accretes), remains stable, or retreats (erodes).

Model predictions for the extent of sea-level increase in the Mediterranean for the 21st century range up to 61 cm (in a worst-case scenario) for the Eastern Mediterranean (Marcos and Tsimplis 2008). Satellite altimetry data on variations in the level of the Mediterranean Sea between January 1993 and June 2006 indicate that sea level will rise more in the Eastern Mediterranean than in the Western Mediterranean. Delta areas, due to their topography and sensitive dynamics, are most vulnerable to impacts from sea-level rise.

Coastline stability is also affected by the increase in artificial structures, both within the drainage basin (especially reservoirs) and along the coastline (the proliferation of marinas and other urban and tourist-industry infrastructure). About 45 % of the sediments that would be delivered by rivers to the Mediterranean annually are either retained behind dams or extracted from river beds for sand and gravel, leading to an overall deficit of sediments on the coast (UNEP/MAP 2009). Artificial structures associated with beach-dune complexes and waterfronts, the destruction or degradation of sea grass beds and dune vegetation, and the extraction of gas, water and sand may also affect the cycling and redistribution of sediment in neighbouring coastal areas, especially if modifications to the coastline have not been properly planned and designed (EEA and UNEP 1999).

Systematic research and documentation of coastline erosion has been carried out only on the Mediterranean states that are members of the EU, as part of the LaCoast, CORINE (Coordination of Information on the Environment), and EuroErosion projects.

Approximately one-fourth of the EU Mediterranean coastline suffers from erosion, with variation among countries. Sea defences to control erosion have been constructed along 10 % of the European coastline. These defences, however, often cause undesirable impacts, including increased erosion in other areas.

CORINE coastal data showed that, by the last years of the 20<sup>th</sup> century, 1.500 km of the EU Mediterranean coast had been transformed to "artificial coast" (mostly concentrated in the Balearic Islands, Gulf of Lion,

Sardinia, and the Adriatic, Ionian, and Aegean seas). European harbours accounted for 1.237 km of this total (EC 1998). Even for EU states, the lack of information and the difficulty in accessing dispersed data have been obstacles to assessing the status and trends in erosion. This has hampered implementation of policies for the protection and management of the coastal environment at local, national and regional levels (CORINE 1995).

Among the many impacts erosion has on coastal ecosystems are the destruction of soil surface layers, leading to groundwater pollution and to reduction of water resources; degradation of dunes, leading to desertification; reduction of biological diversity; adverse effects on beach dynamics; reduction of sedimentary resources; and disappearance of the sandy littoral lanes that protect agricultural land from the intrusion of seawater, resulting in soil and groundwater salinisation (EEA and UNEP 2006).

CORINE data were used to produce an inventory of natural sites of high ecological value that are affected by coastal erosion. The Gulf of Lion, the Ligurian Sea, the Tyrrhenian coast of Italy, and the Po Delta all contain many such sites. One of the major findings of the CORINE project was that coastal erosion management practices often indirectly use protected natural areas established under Natura 2000 (an EU network of protected areas) as sources of sediment. As Natura 2000 sites were selected because they are considered critical to the survival of Europe's most threatened habitats and species, these practices have significant implications for long-term coastal biodiversity and ecosystem resilience (Salman *et al.* 2004).

The Mediterranean and its coasts represent an extraordinarily rich ecosystem<sup>63</sup>, both in terms of habitats and biodiversity, as well as of people along with their cultural values and heritage, and their maritime traditions. It provides a variety of ecosystem services that for centuries have sustained livelihoods and granted wealth to coastal population.



Fig 2.35 – Coastal erosion (EU) and fragile ecosystems in the Mediterranean<sup>64</sup>

<sup>63</sup> An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment interacting as a functional unit. Humans are an integral part of ecosystems (UNEP).

<sup>64</sup> Source: UNSD Millenium Development Goals Database

Country	1990	1995	2000	2005	2009	2009
	<i>Km<sup>2</sup></i>					<i>% coast protected</i>
Algeria	53	54	54	92	92	0,3
Cyprus	40	43	76	76	76	0,6
Egypt	2 661	2 860	3 590	5 626	5 626	9,3
France	779	837	1 702	2 453	2 453	3,4
Greece	654	2 668	2 682	2 745	2 833	2,5
Israel	38	38	38	38	38	1,0
Italy	800	1 736	2 794	25 932	25 932	16,7
Jordan	0	0	20	20	20	20,8
Lebanon	0	5	5	5	5	0,1
Libya	19	20	20	20	20	0,04
Malta	13	13	14	14	16	0,4
Morocco	264	417	446	448	448	1,2
Portugal	1 169	1 170	1 170	1 170	1 170	1,8
Spain	485	486	2 362	4 684	4 684	6,5
Syria	0	0	24	24	24	0,6
Tunisia	407	433	433	433	433	1,2
Turkey	1 934	1 935	1 935	1 935	1 935	2,4
<b>Total</b>	<b>9 317</b>	<b>12 714,3</b>	<b>17 366</b>	<b>45 714</b>	<b>45 804</b>	

**Tab. 2.36 – Marine Protected Areas (MPAs)** <sup>65</sup>

Country	Latest year available	Population connected to wastewater collecting system	Latest year available	Population connected to wastewater treatment
		%		%
Algeria	2009	86,0	2008	53,0
Cyprus	2005	30,0	2005	30,0
France	2004	82,0	2004	80,0
Greece	2009	87,0	2009	87,0
Israel	2007	93,8	2007	91,0
Italy	2005	94,0	1999	69,0
Jordan	2006	61,0	2006	61,0
Lebanon	2004	67,4	...	...
Malta	2009	98,0	2009	48,0
Morocco	2005	87,2	2000	80,0
Palestine	2009	52,1	...	...
Portugal	2008	78,0	2008	70,0
Spain	2007	100,0	2008	92,0
Tunisia	2008	55,9	2008	52,5
Turkey	2008	73,0	2008	46,0

**Tab. 2.37 – Population connected to wastewater collecting system/treatment** <sup>67</sup>

The recognition of the importance of well preserved healthy coastal areas has led in recent years to the creation of a number of **Marine Protected Areas (MPAs)**.

The names and typologies of MPAs across the Mediterranean are most diverse, thus reflecting different legislative contexts and national regulations, aiming at a variety of protection objectives (mainly directed to the conservation of habitats and the protection of ecosystems for recreational purposes). This diversity does not allow for a comprehensive analysis of the performance of Mediterranean MPAs. However, according to a recent survey on over 80 Mediterranean MPAs conducted by the MedPAN Association, more than half of them did not yet have a management plan for the sites and 75% of the Natura 2000 sites (in EU countries) still did not have a management body.

In harmony with the acknowledgment of the value - environmental, economic, societal and cultural - of coastal zones of the Mediterranean, a number of **international regional Sea Conventions, Strategies and other policy instruments** were adopted in order to protect the coastal and marine ecosystems. The most relevant regulatory framework is provided by in the Barcelona Convention, in force since 1978 and revised in 1995<sup>66</sup>, and its specific associated Protocols that aim “to reduce pollution in the Mediterranean Sea and protect and improve the marine environment in the area, thereby contributing to its sustainable development”. An implementation instrument of these Protocols is represented by the Mediterranean Strategy on Sustainable Development (MSSD), which include sustainable management of the sea, coastal areas and marine resources, but also sustainable tourism, agriculture, urban and rural development among its objectives.

In 2011, under the Barcelona Convention, also a specific Protocol on Integrated Coastal Zone Management – and its related Action Plan – entered into force (but still is to be ratified by many Countries in the area).

From his side, on May 2002 Europe adopted a Recommendation concerning the implementation of Integrated Coastal Zone Management in Europe and issued in 2008 the Marine Strategy Framework Directive with an explicit regulatory objective that “biodiversity is maintained by 2020”. To this end, the European Commission set criteria and methodological standards to achieve a Good Environmental Status (GES).

**Despite this comprehensive legal framework**, clearly a sign of the Countries’ political commitment, “the

<sup>65</sup> Source: UNSD Millenium Development Goals Database

<sup>66</sup> The “Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean” entered into force in 2004, replacing the 1976 “Convention for the Protection of the Mediterranean Sea Against Pollution” and extending its scope. All Mediterranean countries have ratified the Convention.

<sup>67</sup> Source: UNSD/UNEP - Eurostat environment statistics main tables and database

Mediterranean continues to be a valuable, treasured region, yet one clearly under threat<sup>68</sup> and “multiple pressures, including habitat loss and degradation, pollution, climate change and overexploitation of fish stocks, affect coastal ecosystems. Coastal habitat types and species of Community interest are at risk in Europe; two thirds of coastal habitat types and more than half of coastal species have an unfavourable conservation status.”<sup>69</sup>.

**High population densities, overfishing and excessive exploitation of natural resources, untreated waste and marine litter remain** a problem and puts enormous pressure on the Mediterranean coastal ecosystems, leading to eutrophication and biodiversity loss, habitats destruction, pollution. Moreover, impacts on environment caused by these drivers have the potential to negatively impact in turn on main economic activities and sources of income in the long run, if not adequately tackled.

One third of the total population of the Programme area live in a narrow strip of coastal land which is less than 12 % of the available surface. The concentration of population and of economic activities in coastal zones, the associated urban sprawl and uncontrolled expansion of both residential and service built areas, ways and nodes of communication, the proliferation of marinas and tourist infrastructures as well as industry installations, impacts on local environment and particularly causes fragmentation, degradation and loss of habitats and landscapes, but also can add substantial stress on bathing water quality. Another side effect is represented by erosion of the shoreline and in some cases disappearance of the sandy littoral lanes that protect agricultural land from the intrusion of seawater, resulting in soil and groundwater salinisation.

It is also worth mentioning that the irreversible loss of fertile ground on account of built-up areas contribute to desertification, and artificial impermeabilisation conditions can induce a change in the water regime, which may result in an increase of floods. This means that as urbanised areas expand, floods and droughts are more likely to occur.

Another challenge related to rapid and uncontrolled coastal development is **pollution**. According to Plan Bleu/UNEP, 69% of the Mediterranean coastal cities of more than 10000 inhabitants are connected to waste water treatment plants, while 40% of the cities with a population between 2000 to 10000 inhabitants are not connected to any waste water treatment plants.

Inadequately planned **tourism** growth not only leads to the impacts above described, but represents a considerable pressure on resources. A tourist staying in a hotel uses on average one third more water per day than a local inhabitant. Moreover, extensive landscaping, water parks, swimming pools and golf courses are typical tourist facilities that require water during dry seasons.

**Overfishing** is another major problem. Mediterranean fish landings represent 1% of total world landing, but its surface is only 0.8% of the total oceans' surface; thus, fishing pressure is high. However, the prevalence of artisanal fisheries and small-scale operators (over 85% of the boats of the Mediterranean fishing fleets are involved in small-scale fisheries), who rely on less impacting fishing methods and equipment compared to industrial large-scale fisheries, represents an important advantage in terms of sustainability.

One of the main challenge of the sector is the **multiplicity of institutional actors** involved (coastal planners, watershed management authorities, shipping authorities, ministries, local communities, only to mention some). This fragmentation of responsibilities and competences results in sectoral approach being applied to coastal management, targeting only a single use (or set of related uses) at a time. Conversely, to effectively tackle ICZM with its complex set of interactions of different drivers and competing environmental, economic, social, cultural and recreational objectives, a systemic and holistic planning is needed that could take into account how these concurrent and cumulative uses can affect ecosystems and operate the necessary trade-offs and balances among different interests. In this view, following the World Summit on Sustainable Development, the Ecosystem Approach (ECAP) has been adopted by many International Conventions and Regional Seas Organizations. The Contracting Parties to the Barcelona Convention have adopted it in January 2008 at their Almeria meeting. In this view, the European Commission has recently adopted a draft proposal for a Directive on maritime spatial planning and integrated coastal management.

<sup>68</sup> UNEP/MAP, *State of the Mediterranean Marine and Coastal Environment*, 2012.

<sup>69</sup> The European Environmental Agency, *10 messages for 2010 Coastal ecosystems*, 2010.

Informed participation of all stakeholders across the different sectors is an important pre-requisite to ensure broad support for taking actions towards meeting these objectives.

The European Commission has recently drafted a Directive for maritime spatial planning and coastal management, meant to integrate systemically land and sea planning in a sustainable fashion, to involve all relevant stakeholders in a transparent way to increase coordination and effective management.

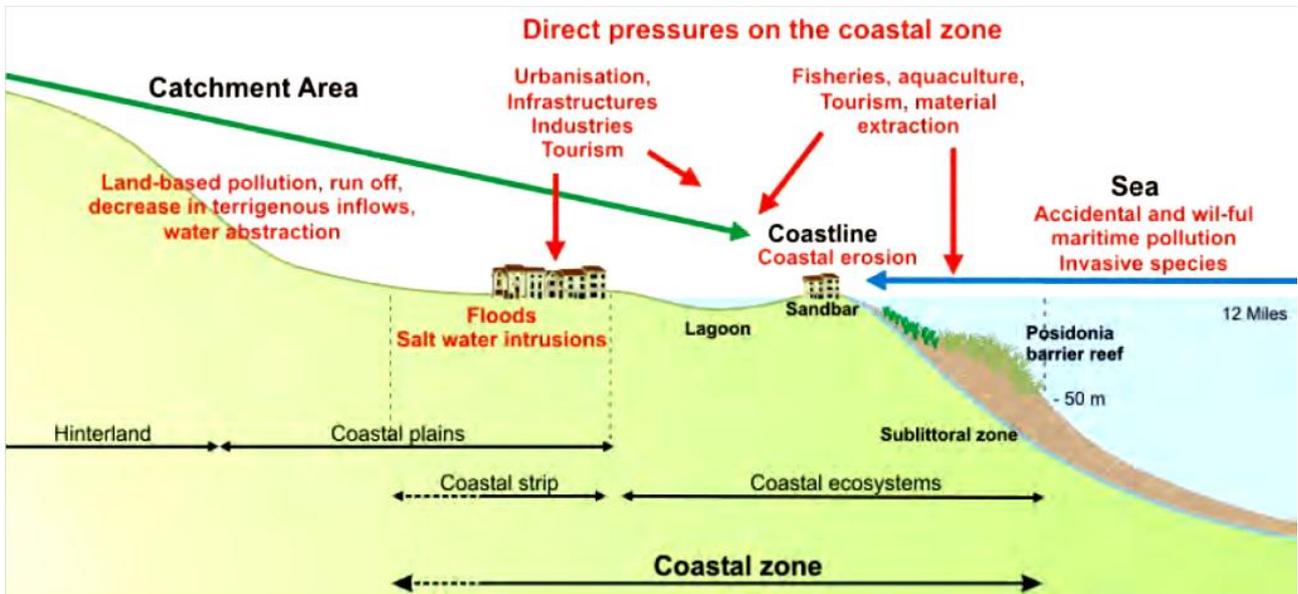


Fig. 2.38 – The pressures on the littoral<sup>70</sup>

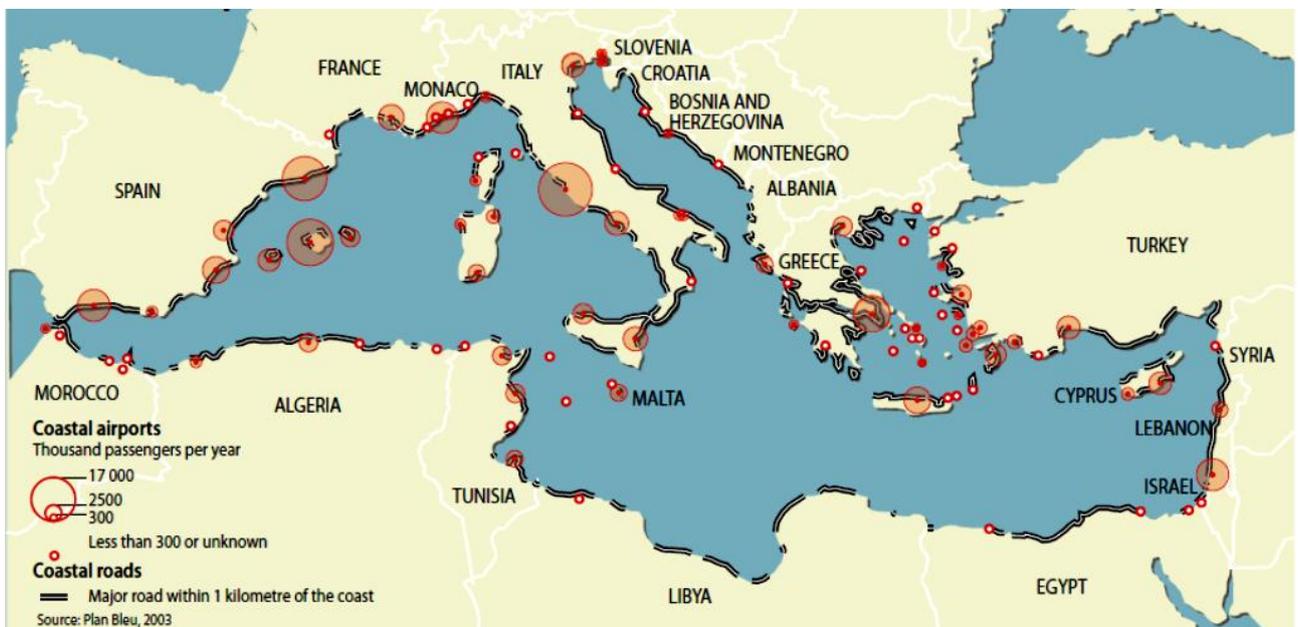


Fig. 2.39 – Coastal transport infrastructure in the Mediterranean<sup>71</sup>

<sup>70</sup> Source: PlanBleu

<sup>71</sup> Source: UNSD Millennium Development Goals Database

## 2.2.5 Agriculture

The Mediterranean Basin is home to some of the most ancient civilization in the world. As a consequence, agricultural activities in the Mediterranean Basin dates back to millennia ago. The whole Mediterranean Landscape is the result of the interactions between human activities and natural habitats. Considering the European shore, agricultural area occupy about 36% of available land. Wine, olive and fruit growing are widespread. Vegetable production is increasing, largely in green-houses around the bigger urban areas.

Many ecosystems currently occurring in the Mediterranean are not in fact “natural” ecosystem but are dependent on some level of agricultural activities (mainly grazing and mowing). Such habitats are often associated to extensive agricultural and agro-forestry systems and both cessation or intensification of agricultural activities would have negative consequences on them. This is the case for example of some habitats identified by the Habitats Directive as Endemic oro-Mediterranean heaths with gorse, Mountain Cytisus purgans formations, Arborescent matorral with Juniperus spp. Just to mention a few.

Compared to other biogeographic region in Europe, particularly the continental and the Atlantic ones, the Mediterranean basin features more frequently **extensive agricultural landscape, comprising agro-silvo-pastoral systems**, which are valuable both from an **ecological and cultural point of view**. They are also less

impacting on the environment in terms of chemical inputs and contamination, compared to intensive, crop-dominated agricultural land of several areas in the continental and Atlantic regions. However, a recent report from the EEA<sup>72</sup> indicates that over the last 50 years there has been a large increase in farming intensity and productivity on optimal agricultural also in this region. The intensification concerns not only crops such as cereals, but also olive groves, vineyards, citrus and other fruits orchards. Rice growing has increased especially in the surroundings of estuaries or river plains where irrigation water is available (as in Spain, Ebro delta region). Cereals, vegetables and citrus fruits account for over 85% of the Mediterranean’s total agricultural production. From 1961 to 2007, the volumes produced in the MED countries grew considerably, increasing 3-fold for cereals<sup>1</sup>, 2.5-fold for vegetables<sup>2</sup> and 5-fold for citrus fruits. Average annual growth rates (AAGR) of production for these three types of products, all Mediterranean countries included, shows a recent slow-down from 2.25% for 1961-1983 to 1.62% for 1984-2007.

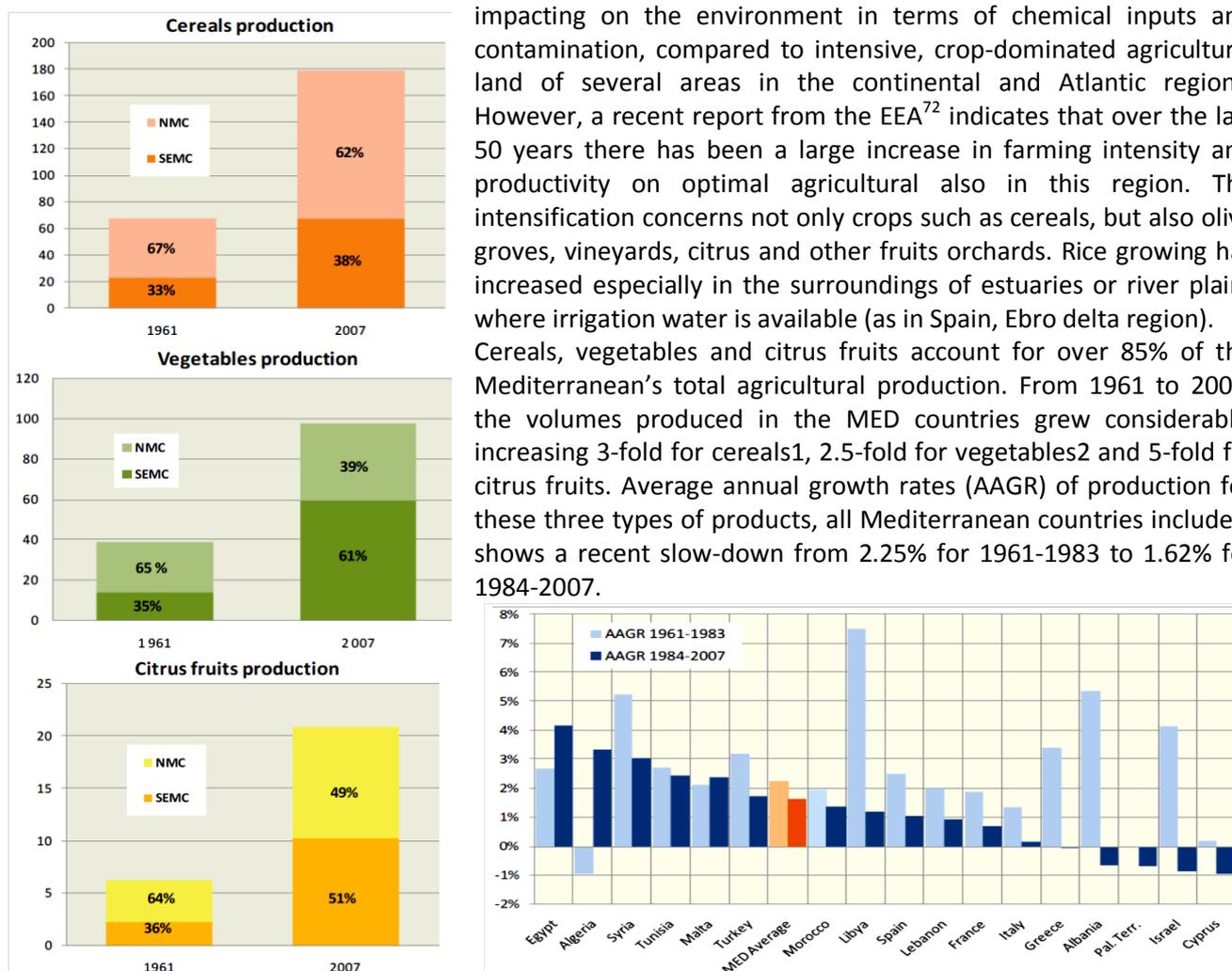
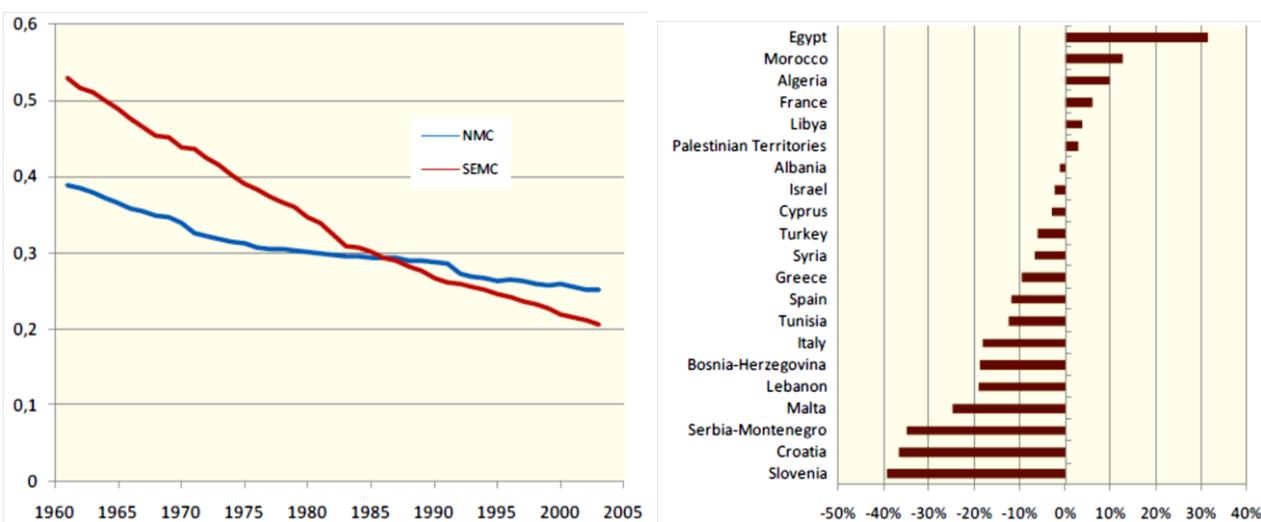


Fig. 2.40 – Main Mediterranean production, 1960-2007 and Annual average growth rate of the main Mediterranean production 1961-2007 (%) (millions of tonnes)<sup>73</sup>

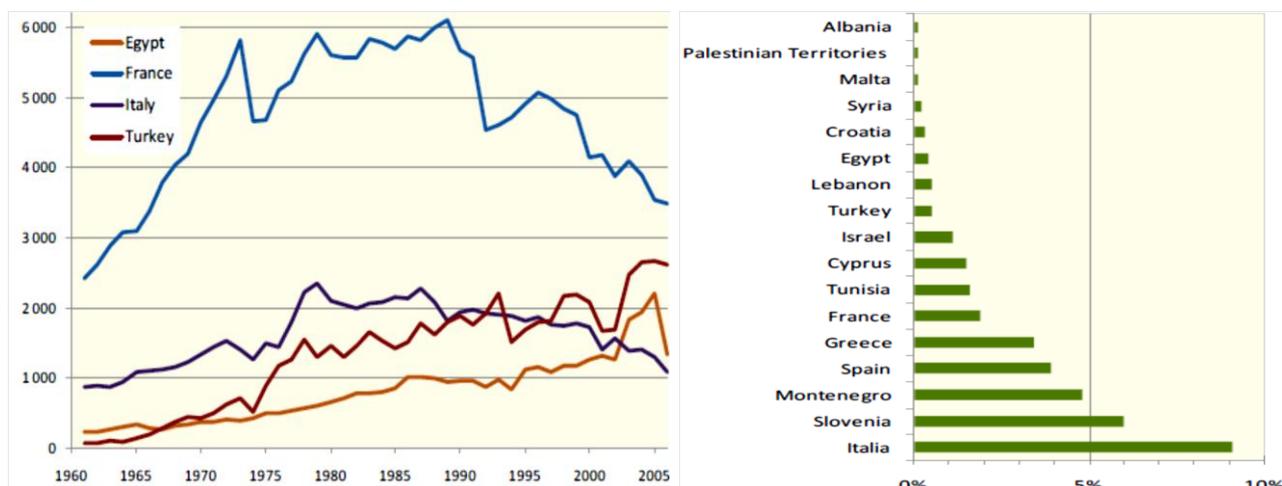
<sup>72</sup> European Environmental Agency - The Mediterranean Biogeographical Region

<sup>73</sup> Source: FAOSTAT 2009, *Plan Bleu computations*

Some of the highest European **pesticide** loads on arable land are found in this region (southern France, parts of Spain and Portugal). Water pollution has been shown to affect river, lakes and bogs and fens. Over the last decades, dry grasslands have been converted to arable land for cereal cultivation and fruit growing, for example in the Crau (France) or in the Ebro Valley (Spain). In Italy, as in other parts of the Mediterranean, cessation of grazing led to the ecological succession from dry grasslands into (less ecologically diverse) bushy areas. Agricultural intensification has also resulted in a drastic decline in agro-forestry farming systems (montados and dehesas in Portugal and Spain or in Italian olive groves). As reported in the sub-section on biodiversity and ecosystem, cultivation is indicated in the most recurrent pressure affecting conservation status of habitats in the Region. At the same time, also (over) grazing is reported as a recurrent pressure, meaning that both intensification and abandonment of sustainable agricultural practice is taking place in the Mediterranean Basin. Agricultural utilized areas is declining in some countries like Italy, France and Spain, whilst is increasing in some other ones, as in the Balkans. Furthermore, water availability is a key environmental problem in this region, and intensive agriculture, vegetable growing and the large citrus orchards require intensive irrigation. Conflicts on water uses are therefore particularly an issue.



**Fig. 2.41 – Trend of arable land per capita in the Mediterranean countries, 1961-2005 (hectare) Net loss or gain of arable land between 1980 and 2005 (%)**<sup>74</sup>



**Fig. 2.42 – Fertilizer consumption in some Mediterranean countries, 1961-2006 (thousand tonnes) Share of the agricultural land area used by organic farming, 2007 (%)**<sup>75</sup>

<sup>74</sup> Source: FAO, Planbleu

## 2.2.6 Fisheries

Fishing is an important activity in the Mediterranean area, although a relatively small quantity of fish is caught compared to other sea regions. According to FAO statistics, total capture in 2012 was 1,28 millions tons (decreasing from the previous years).

Fisheries are the greatest users of marine resources in the Mediterranean. The main species of fish exploited in the coastal areas are sardine (*Sardina pilchardus*) and anchovy (*Engraulis encrasicolus*) among the small pelagics, and hake (*Merluccius merluccius*), mullet (*Mullus* spp.), whiting (*Micromesistius poutasou*), angler fishes (*Lophius* spp.), sea bream (*Pagellus* spp.), octopus (*Octopus* spp.), squid (*Loligo* spp.), and red shrimp (*Aristeus antennatus*) among the demersals, and big pelagic like bluefin tuna (*Thunnus thynnus*) and swordfish (*Xiphias gladius*). Landings of these species represent 70–80 % of the total fish landings in the Mediterranean. Invertebrates are also exploited, including red coral (*Corallium rubrum*), many sponge species (*Spongia* spp., *Hypospongia* spp.), and natural beds of bivalves (*Lithophaga lithophaga*, *Acanthocardia* spp., *Callista chione*, etc.) (UNEP/MAP 2012).

Commercial fishing tends to be concentrated in inshore areas, although there are fisheries for pink shrimp (*Penaeus duorarum*), deepwater rose shrimp (*Parapenaeus longirostris*), and hake (*Merluccius merluccius*) on the continental slope (UNEP/MAP 2009).

Mediterranean fisheries are primarily coastal. The abundance and distribution of exploited species in coastal waters vary according to depth, with the continental shelf being the most productive area. The shelf extends from the coast to a depth of approximately 250 m. Fisheries in this region are highly diversified, although non-industrial fishing from small boats dominates (UNEP/MAP 2009).

Fisheries is a significant source of **employment** (about 250000 fishermen only on the EU) and an important component of the Mediterranean cultural identity. Mediterranean fisheries is mainly coastal and it is characterized by a high share of relatively small operators, a relatively high share of capture by recreational fishing (10%). Six countries make up 85 % of total **production** (Italy, Turkey, Greece, Spain, Tunisia and Algeria). This amount of production is largely insufficient to meet the demand. Many fish species in the Mediterranean are over-exploited as a result of growing pressure from both commercial and recreational fisheries.

It is important to underline that the Mediterranean is a **semi-enclosed sea** with a particularly long turnover time for the water (about 90 years) is an oligotrophic sea with low levels of biological and halieutic productivity. However, its **high salinity gradients and temperatures** are the key to its rich biodiversity and allow the development of a fauna and fisheries of a unique diversity. The abundance and distribution of fish and other living marine resources (shellfish, molluscs, sea-urchins, corals) vary widely depending on depth, but most biological production is concentrated on the continental shelf (which extends from the coast a depth of 250m approximately) and is still the preferred habitat of species with an economic and commercial value.

The shelf, which is relatively narrow with the exception of certain areas such as the Gulf of Lion, the Gulf of Gabes and the Adriatic, limits the potential for fishing.

Fishing activities are highly diversified and based on historic traditions, with non-industrial fishing featuring strongly and essentially carried out from small boats (<15m long). This **fishing fleet** was estimated at 140,000 vessels in the early 2000, although it is difficult to have a precise idea of its current size since only boats over 15m are counted at a regional level by the GFCM, an update is currently underway. The only available data concerns the Mediterranean EU Member States, with 39,104 vessels declared by States (Parties to GFCM) with a very high percentage of small vessels in certain countries (of the 18,000 vessels declared by Greece, 16,900 are less than 12m long).

<sup>75</sup> Sources: FAO, WDI, Plan Bleu computations, Research Institute of Organic Agriculture FiBL, 2009

Mediterranean fish catches represent a small part of total catches worldwide (a bit more than 1% of total catches). This volume is significant given that the Mediterranean sea represents less than 0,8% of global oceans. Moreover, fishing in the Mediterranean tends to be concentrated in in-shore areas, with some boats fishing on the continental slope for prized species such as the pink shrimp, the deepwater rose shrimp, and hake, (particularly as the deep areas are currently not exploited and are highly unlikely to start being exploited in the short term).

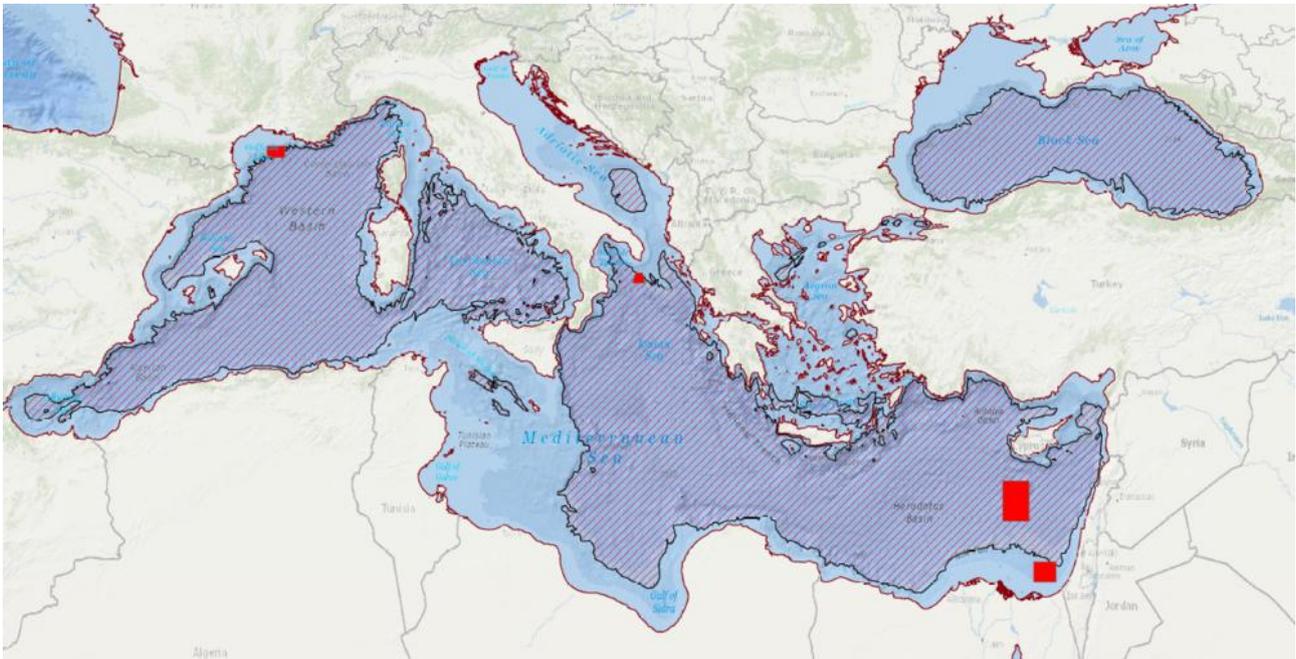


Fig. 2.43 – Location of the four GFCM FRAs and 1000 m isobaths in the Mediterranean and Black Sea <sup>76</sup>

In the Mediterranean, fishing and aquaculture fall under the jurisdiction of the **General Fisheries Commission for the Mediterranean (GFCM)**, the oldest of the Food and Agriculture Organization's (FAO) regional fisheries organizations. The GFCM is one of the few RFMOs worldwide entitled to adopt spatial management measures that regulate or restrict human activities in the high seas, e.g. by introducing closures or prohibiting the use of certain gears. Since 2006, four FRAs, falling both in high seas and national waters have been established to ensure the protection of deep sea sensitive habitats in well-delimited sites. In addition, yet in 2005 the GFCM endorsed the decision of prohibiting bottom-trawling activities in waters deeper than 1000 m in order to protect the deep-sea benthic environments of the Mediterranean and Black Sea:

**FRA of "Lophelia reef off Capo Santa Maria di Leuca"** (976 km<sup>2</sup>, GSA 19, Italy). This area was protected from fishing activities with dredges and bottom trawl nets to guarantee the conservation of a unique ecosystem of cold-water corals (*Madrepora oculata* and *Lophelia pertusa*).

**FRA of "The Nile delta area cold hydrocarbon seeps"** (4377 km<sup>2</sup>, GSA 26, Egypt). This area hosts an exceptionally high concentration of cold hydrocarbon seeps supporting unique living communities of chemosynthetic organisms such as polychaetes and bivalves. In this area fishing activities with towed dredges and bottom trawl nets have been prohibited.

**FRA of "The Eratosthenes Seamount"** (10306 km<sup>2</sup>, GSA 25, Cyprus). The area has a rich and diverse ecosystem, notably composed by species of scleractinian corals (*Caryophyllia calveri* and *Desmophyllum cristagalli*) and of deep sea sponges. In this area fishing activities with dredges and bottom trawl nets have been prohibited.

**FRA of "The Gulf of Lion"** (2018 km<sup>2</sup>, GSA 07, France). This area within the Gulf of Lion was recognized as an important zone where aggregations of spawners of many exploited species (hake, monk fish, lobsters) occur. The fishing effort in this area has been frozen to the level of 2008

**Production** currently ranges between 1,500,000 t to 1,700,000 t per year, 85% are attributable to six countries (Italy, Turkey, Greece, Spain, Tunisia and Algeria). Mediterranean fishing no longer satisfies

<sup>76</sup> Source: GFCM

demand in the riparian states (1/3 of demand). Market globalisation has changed consumer habits, making the Mediterranean one of the regions of the world which is most dependent on imports.

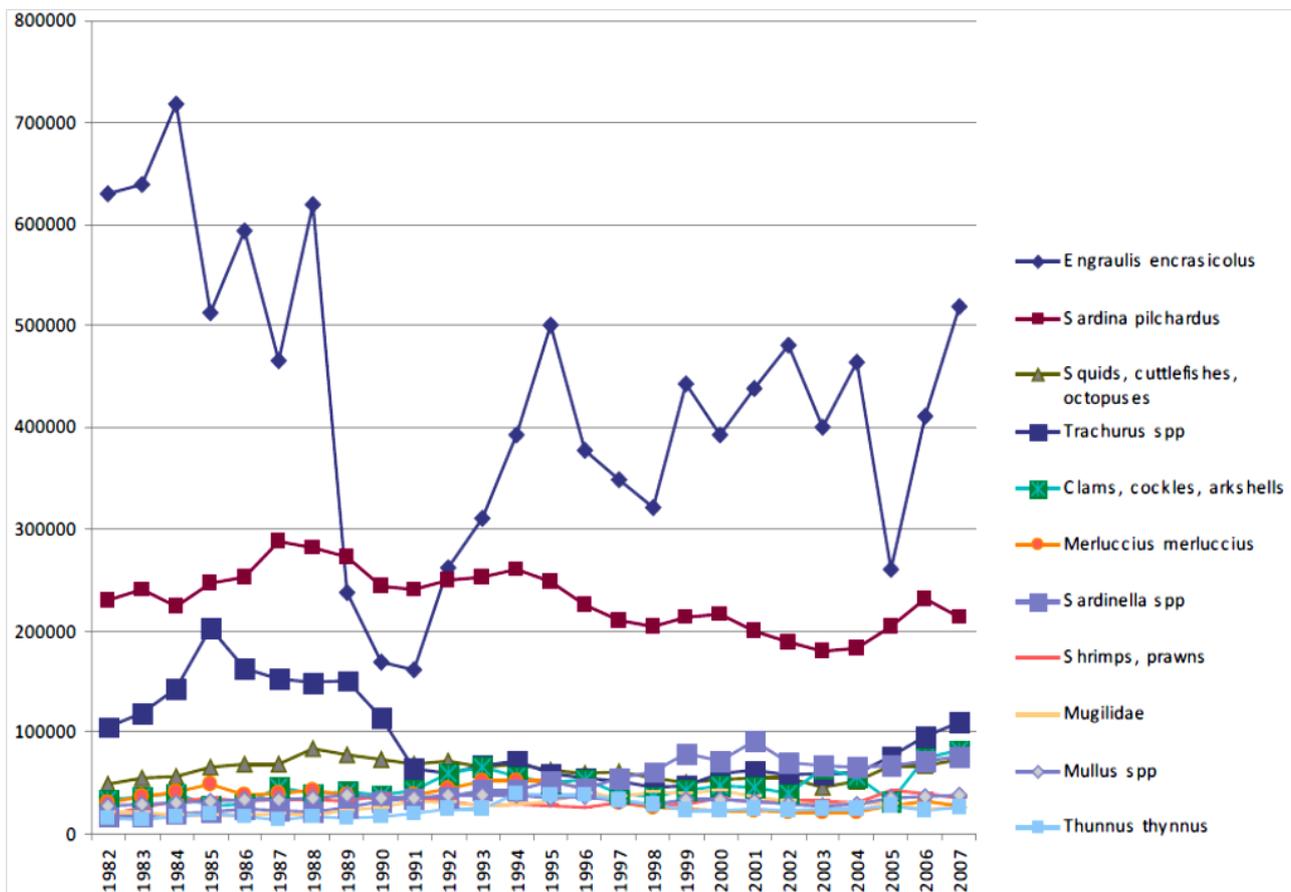


Fig. 2.44 – Evolution of main commercial fishes catch annually in the Mediterranean and the Black sea (metric tonnes)<sup>77</sup>

Many fish species in the Mediterranean are over-exploited as a result of growing pressure from both commercial and recreational fisheries (UNEP/MAP 2012). In the Mediterranean overall bottom-feeding stocks are dominated by juveniles, which could indicate high fishing pressure (EEA and UNEP 2006).

The **overfishing of juveniles** can lead to changes in population structure, which ultimately affects the sustainability and recovery of stocks (UNEP/MAP 2012). Some species also have life cycles that make them more vulnerable to over-exploitation, such as slow growth rates and older age of maturity.

Fisheries tend to target larger, more valuable species higher in the food web. As the numbers of higher predators decrease due to over-exploitation, species further down the food web start to dominate the catch. This is known as “fishing down the food web”. This process appears to have been taking place in the Mediterranean at least since the mid-20th century (Pauly *et al.* 1998).

**Over-exploitation** of fish stocks is reported across the Mediterranean. More than 65 % of commercial stocks are fished beyond sustainable limits (UNEP/MAP 2012; Abdul Malak *et al.* 2011). Although commercial fisheries have the greatest impact, recreational fishing also places pressure on stocks. Some species, such as Atlantic bluefin tuna (*Thunnus thynnus*) and dusky grouper (*Epinephelus marginatus*), have been fished to such an extent that they are both listed as Endangered on the IUCN’s Red List (Abdul Malak *et al.* 2011). Both croaker (*Sciaena umbra*) and shi drum (*Umbrina cirrosa*) have been listed as Vulnerable, while European plaice (*Pleuronectes platessa*), Baltic flounder (*Platichthys flesus*), European seabass

<sup>77</sup> Sources: SPA/RAC, SIPAM

(*Dicentrarchus labrax*), white grouper (*Epinephelus aeneus*), swordfish (*Xiphias gladius*), Atlantic chub mackerel (*Scomber colias*), and turbot (*Psetta maxima*) are listed as Near Threatened (Abdul Malak *et al.* 2011). Of the 86 shark, ray, and chimaera species in the Mediterranean, fifteen are Critically Endangered, nine are Endangered, and eight are Vulnerable (Abdul Malak *et al.* 2011). Another ten species are listed as Near Threatened (Abdul Malak *et al.* 2011). Recovery of many stocks has been hindered by factors other than fishing, such as pollution and increasing water temperature.

**By catch** – the accidental capture of non-target species in fisheries – is a serious issue in many parts of the Mediterranean. Species not eaten by humans are discarded overboard. Globally, one-quarter to one-fifth of all fish caught is thrown overboard (CMS [no date]). While some of the discards may be eaten by opportunistic ocean feeders, most are wasted (UNEP/MAP 2012). Longlines and driftnets result in significant by catch of sea turtles, marine mammals (especially whales and dolphins), seabirds, and sharks (Abdul Malak *et al.* 2011).

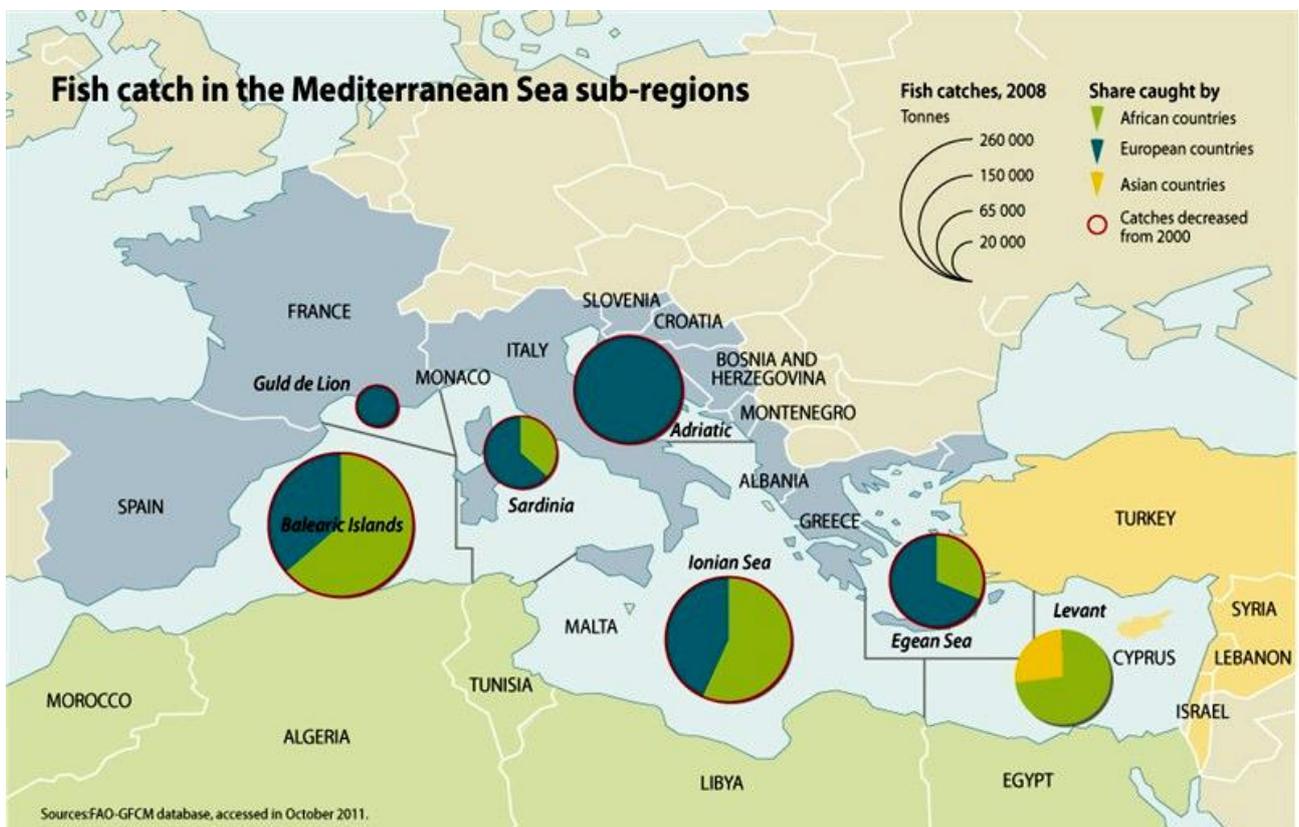


Fig. 2.45 – Fish catch in the Mediterranean Sea sub-regions<sup>78</sup>

The Food and Agriculture Organization defines **artisanal fisheries** as “traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips, close to shore, mainly for local consumption. Artisanal fisheries can be subsistence or commercial fisheries, providing for local consumption or export” (FAO/FD 2010). Artisanal fisheries continue to have a presence in the Mediterranean, although their socio-economic significance varies between countries and communities. In some regions, they represent an important source of income and food security. Artisanal fisheries are believed to have a smaller impact on biodiversity than does industrial fishing because they tend to use lower-impact gear. Because of the wide variety of gear types and target species, however, it is difficult to

<sup>78</sup> Sources: FAO-GFCM database, 2011)

determine the ecosystem effects of artisanal fisheries (UNEP/MAP 2012). At the same time, artisanal fisheries themselves can be negatively impacted by other stressors, such as pollution and the loss of important habitat.

**Aquaculture** is the fastest growing food sector in the world, with about one-third of global fish consumption coming from farmed fish. Although the Mediterranean region has a long history of fish farming, aquaculture and particularly mariculture have undergone a dramatic expansion since the 1990s. Decreasing wild fish stocks, combined with increasing consumer demand for fish, have spurred the growth of the industry. Of particular importance to Mediterranean aquaculture are gilthead sea bream (*Sparus aurata*), sea bass (*Dicentrarchus labrax*), mussels (*Mytilus galloprovincialis*) and flat oysters (*Crassostrea gigas*). More than half of aquaculture production in the Mediterranean comes from western European countries (58 %), but Greece is a global leader in the production of gilthead sea bream (UNEP/MAP 2012). To meet the demand for fisheries products, aquaculture in the Mediterranean has expanded from land-based and inshore operations to offshore cage farming (mariculture) (CIESM 2007).

For some species, such as sea bass and sea bream, a majority of farms limit their land-based activities to hatcheries, with most of the growth taking place in sea cages.

While aquaculture offers considerable economic benefits, it can also have an impact on local biodiversity. Particular effects include: organic pollution and eutrophication from waste products and uneaten feed (in some cases leading to local hypoxia and anoxia); degradation of benthic habitats under cages, including valuable sea grass meadows; release of antibiotics and biocides; spread of benthic pathogens; and introduction of nonindigenous species (UNEP/MAP 2009 and CIESM 2007).

Grow-out facilities for tuna warrant special attention for their impact on bluefin tuna and other species. In these operations, schools of tuna are live-trapped by purse seine nets and then fattened in cages until they reach marketable size. In 2004, almost 225.000 tonnes of tuna were raised by this method in the Mediterranean (UNEP/MAP 2009). Since many of the catches are undeclared, there are no accurate figures for the size of the catch.

It is estimated that in 2005, 44.000 tonnes were caught, a figure which is 37 % over the legal quota and 77 % above the quota recommended by experts (UNEP/MAP 2009). This practice increases pressures on both wild tuna populations and fish that are caught to feed the penned tuna (e.g., anchovies, mackerel, sardines). It is estimated that it takes 25 kg of fish to produce 1 kg of tuna (UNEP/MAP 2009). There are also ramifications for human populations dependent upon these food fish, most notably in West Africa.

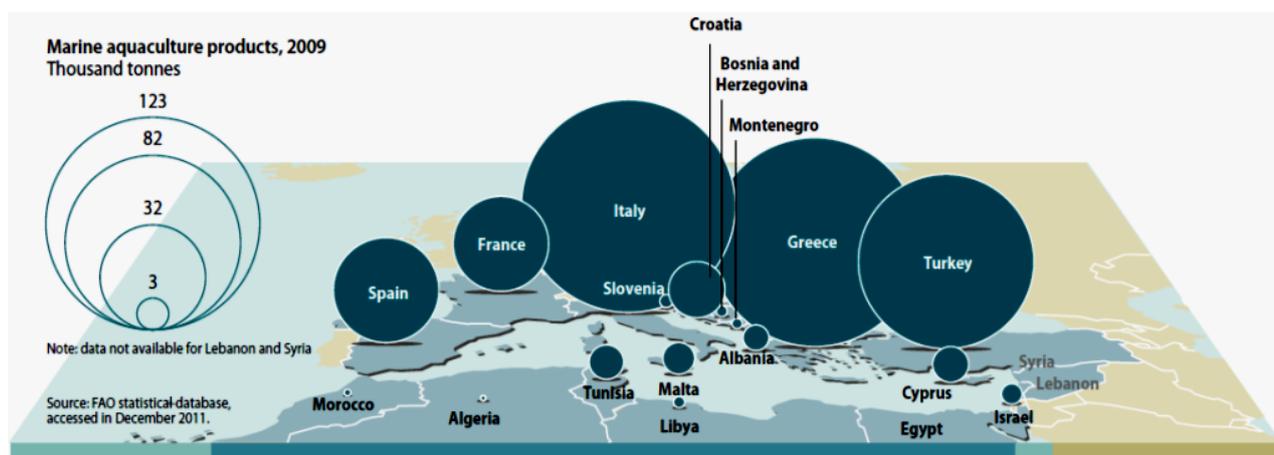


Fig. 2.46 – Aquaculture in the Mediterranean and Black seas<sup>79</sup>

Fishing is one of the major contributors to **habitat damage** in the Mediterranean Sea. Most of this damage

<sup>79</sup> Source: FAO statistical database, accessed in December 2011

comes from trawling operations. Since fishing is most intense in the Western Mediterranean, it is not surprising that impacts on marine habitats are particularly severe there (UNEP/MAP 2012). Benthic, or seabottom, habitats and the communities associated with them are especially vulnerable.

In sea-bottom habitats of the open seas, deep-water coral ecosystems, the feather star (*Leptometra phalangium*), the sea pen (*Funiculina quadrangularis*), and bamboo coral (*Isidella elongata*) beds are considered most vulnerable to impacts from fishing (UNEP/MAP 2012). The location and extent of these habitats, however, are not well known. Even less is known about vulnerable deep-sea fauna that inhabit abyssal plains throughout the Mediterranean.

Increasingly efficient **fishing methods** have a significant effect on many species. Changes include vessel engine power, size of gear and vessel characteristics, advances in navigation and fish-locating devices, and the development of fixed-gear fisheries that target the breeding class of several long-lived species in areas not effectively trawled in the past. All of these changes contribute to the decline of fish stocks (UNEP/MAP 2012 and UNEP/MAP/ MED POL 2005). In addition, as fleets are modernised for longer voyages and navigation through rough seas, increased pressures can be expected on species in the open ocean and in deep waters (UNEP/MAP 2012).

The selection of **gear type** affects both species and habitats. Non-selective fishing gear, such as “tonailles” – nets used for tuna – longlines, driftnets, fine-mesh nets and trawling, are the most harmful (UNEP/MAP 2012). Although driftnets have been banned in the Mediterranean, they are still in use (UNEP/MAP 2012). Ghost fishing – when lost or abandoned fishing gear continues to catch fish and other animals – is also a problem, most commonly with passive gear (e.g., longlines, gill nets, traps). The lost gear is a threat to marine species and a danger to passing boats if it becomes entangled in their propellers or in their own fishing gear.

**Trawling** is particularly destructive to benthic communities. It severely alters deepwater coral ecosystems and sea grass meadows and their associated fauna, reducing both the number of species and available habitat (UNEP/MAP 2012; Abdul Malak *et al.* 2011). Seamounts are particularly sensitive to fishing impacts due to their isolation and limited geographic distribution (UNEP/MAP 2012). Regulations limit the use of towed gear at depths greater than 50 m or at distances greater than 3 miles from the coast if the depth is less than 50 m. Despite the regulations, however, illegal trawl fisheries are still widespread (UNEP/MAP/MED POL 2005).

Using dynamite and poison to fish is illegal, but it is still practiced in some regions (UNEP/MAP 2012). These non-selective techniques kill many non-target species and have significant negative impacts on entire ecosystems (UNEP/MAP 2012).

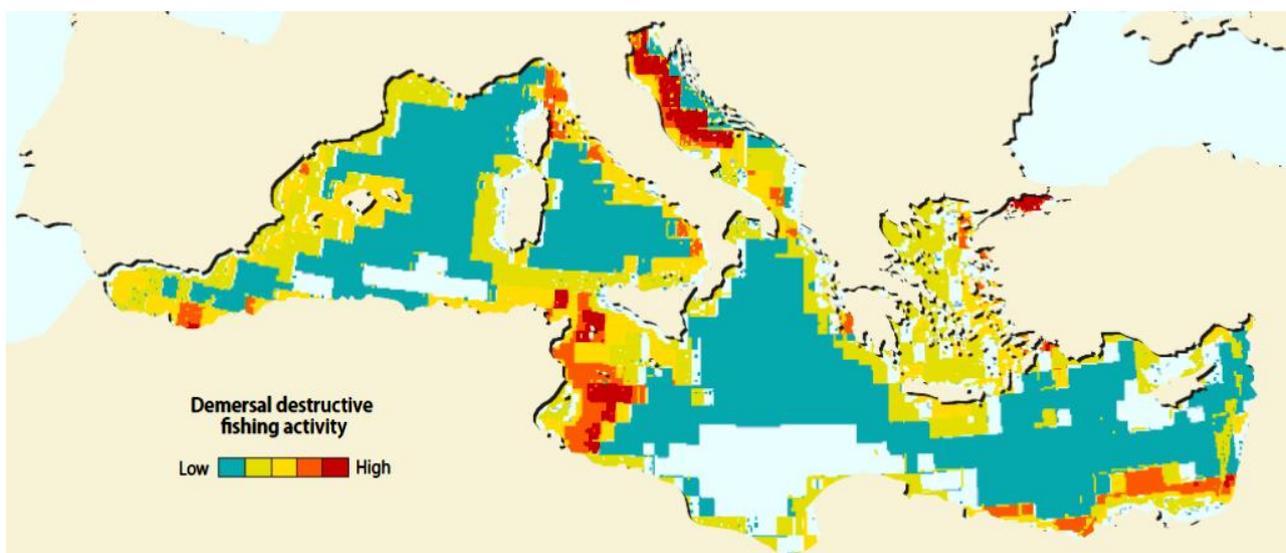


Fig. 2.46 – Demersal destructive fishing in the Mediterranean Sea<sup>80</sup>

### 2.2.7 Cumulative and Concurrent Impacts - NCEAS

None of the factors affecting the Mediterranean Sea and its coasts, along with its inhabitants, exist in isolation. The National Center for Ecological Analysis and Synthesis (NCEAS - University of California) has undertaken modelling to perform comprehensive spatial analysis and mapping of human pressures throughout the Mediterranean Basin. This work builds on a previous global analysis of cumulative human impacts (Halpern *et al.* 2008), including additional information to better reflect the specific pressures and ecosystems of the Mediterranean Sea and coasts. A total of 22 spatial datasets of human activities and stressors and 19 ecosystem types were assembled and used in the analyses and maps (NCEAS 2008).

The analysis concluded that pressures that exert **the greatest impacts** on Mediterranean marine ecosystems are **climate change, demersal fishing, ship traffic, and, in coastal areas, run-off from land and invasive non-indigenous species**. The lowest estimated impacts are associated with oil spills and oil rigs, due to a combination of the limited spatial extent of these pressures and their overlap with habitats with relatively low vulnerability to these potential threats.

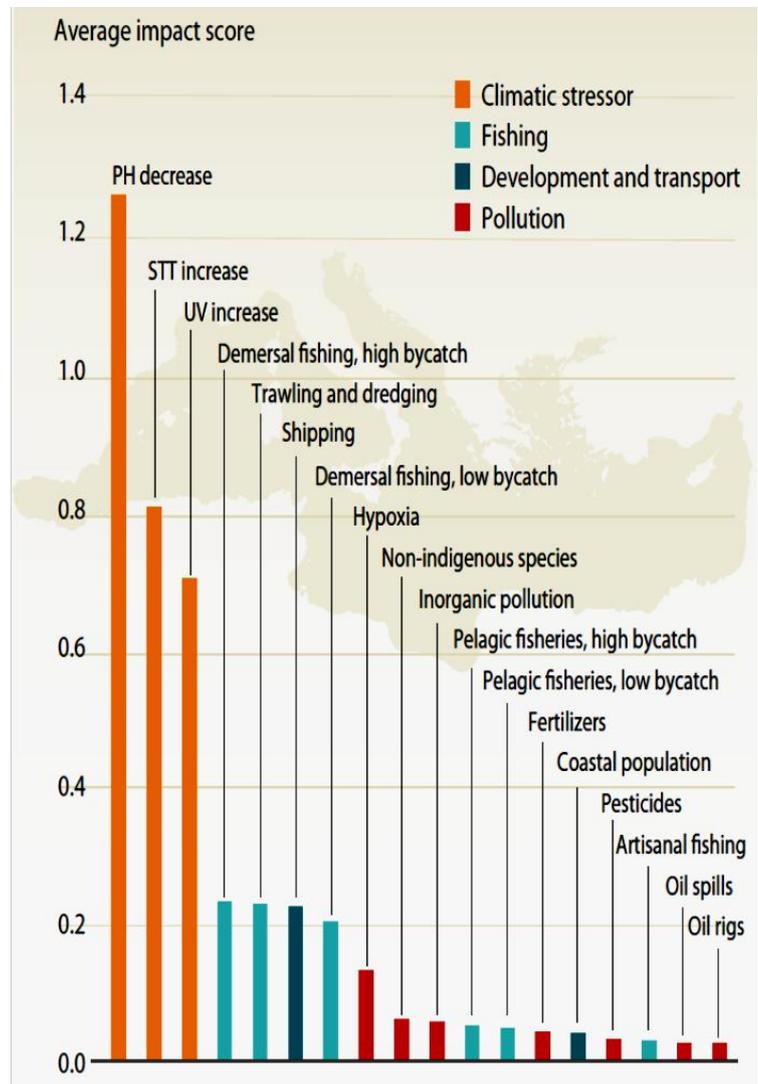


Fig. 2.46 – Sources of environmental impact on the Mediterranean SEA<sup>81</sup>

The analysis shows distinct spatial patterns in the distribution of cumulative human impacts. Supporting the findings of the Initial Integrated Assessment done in support to the Ecosystem Approach process, the NCEAS modeling suggests that the Adriatic and Alboran seas are the most impacted by multiple human pressures, while the Western Mediterranean and the Tunisian Plateau/Gulf of Sidra are the least. Coastal areas within the territorial waters of nations, particularly Spain, France, Italy, Tunisia and Egypt suffer the greatest cumulative impact from multiple pressures, with estimated cumulative impact scores up to ten times greater than in the high seas. It must be noted that the modelling of cumulative impacts only suggests areas for further study. Ground-truthing is needed to see if the models accurately reflect the extent to which multiple human pressures are causing ecological impacts and potentially undermining the delivery of ecosystem services. In addition to establishing a systematic monitoring regime to derive needed information on condition and trends, future research will have to elucidate cause and effect relationships,

<sup>80</sup> Sources: National Center for Ecological Analysis and Synthesis, Mediterranean Cumulative Impacts Model, online database, accessed on December 2011

<sup>81</sup> source: NCEAS, Mediterranean Cumulative Impact Model, 2011

not just correlations.

The milestones recently achieved in the application of the Ecosystem Approach roadmap, namely the setting of ecological objectives and operational objectives, together with indicators, form the basis for such a rationalized approach to deriving information for all future assessments. Establishing targets, and analysing trend information to know when targets are being approached, will provide the kind of robust scientific information needed to allow management priorities to be determined and to guide effective ecosystem-based management.

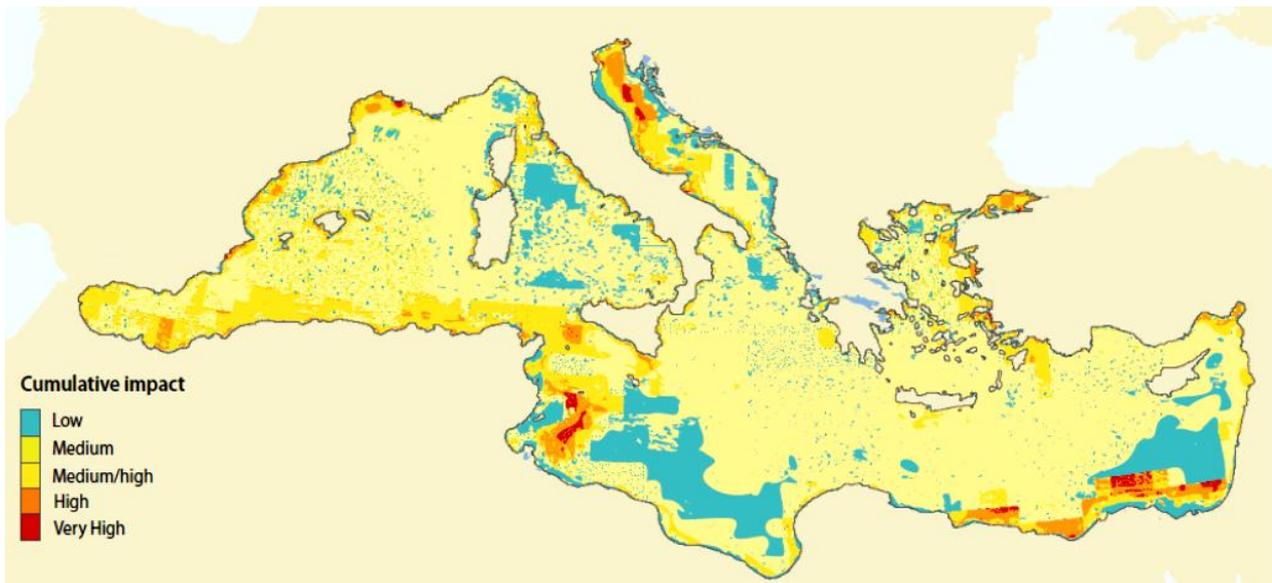


Fig. 2.47 – Sources Mediterranean cumulative impact model<sup>82</sup>

<sup>82</sup> Source: NCEAS, Mediterranean Cumulative Impact Model, 2011

## Chapter 3



## Programme's contents

## 3.1 Programme's framework

The European Neighbourhood Instrument (ENI) and the European Neighbourhood Policy (ENP) principles and objective<sup>83</sup>, meant to progress towards 'an area of shared prosperity and good neighbourliness' between EU Member States and their neighbours, set out the framework on of the Programme's Strategy. The overarching and thematic objectives of the Strategy, and the related priorities and expected results, are based on a participatory methodology, conjugating a wide and extensive consultation process with an in-depth analysis and research phase of the socio-economic context and of the most relevant sectors of cooperation, which the JPC participating countries deemed as necessary to investigate further.

### 3.1.1 The General, Overarching and Thematic Objectives and Priorities

The ENI CBC MED 2014-2020 is structured in: 1 General Objective, 2 Overarching Objectives (OOs), 4 Thematic Objectives (TOs) and 11 Priorities.



**Fig. 3.1 - General Objectives, Overarching Objectives, Thematic Objectives and priorities**

<sup>83</sup> Objectives and principles are recalled in articles 1-5 of the REGULATION (EU) No 232/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2014 establishing a European Neighbourhood Instrument, that sets out a policy framework for the European Neighbourhood Instrument (ENI).



The **General Objective** is to *foster a fair, equitable and sustainable economic, social and territorial development* that may advance cross-border integration and valorise participating countries' territories and values.

The **Overarching Objectives (OOs)** have been selected by the national delegations taking part in the Joint Programming Committee (JPC) of the ENI CBC MED through a consultative process based on detailed sectoral analysis. The two OOs, consistent with the needs of the Programmes' territories, are the following:

- 1 - *Promote economic and social development*<sup>84</sup>
- 2 - *Address common challenges in environment*

The **Thematic Objectives (TOs)** chosen because have been considered as most relevant and appropriate to consolidate the cooperation initiated through the Programme 2007-2013 are:

- 1.A - *Business and SME development*
- 1.B - *Support to education, research, technological development and innovation*
- 1.C - *Promotion of social inclusion and fight against poverty*
- 2.A - *Environmental protection, climate change adaptation and mitigation*

The first three TOs directly address and contribute to achieving the first OO. In particular supporting the creation and strengthening the competitiveness of MSMEs, especially those innovative, and euro-Mediterranean value-chains might have direct impacts in terms of potential new jobs and opportunities and trickle-down effects that might stimulate the socio-economic development of the area. Strengthening the role of most disadvantaged in the economy, particularly youth and NEETS severely hit by the crises that affected the area in recent years, may contribute to assure that the process is equitable and fair. The fourth TO is closely related to the second OO. Particularly, undertaking measures for anticipating and mitigating the adverse effect of climate change (such as improving water and energy efficiency) and enhancing environmental protection (through a more sound management of wastes, and integrated ECAP-based planning for coastal areas) might serve the purpose of addressing common environmental challenges of the area.

The **Priorities** are elaborated on the basis of the most relevant medium term needs that were identified through 8 sectoral desk analyses– that include analytical data and synoptic tables of medium-term needs (MTNs) and related strengths and weaknesses – and a wider consultation process of national relevant stakeholders for each of the thematic sectors that emerged as most relevant for the area. The Programmes' priorities are the following:

- 1.1 *Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialisation where applicable*
- 1.2 *Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional sectors (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)- Promotion of social inclusion and fight against poverty*
- 1.3 *Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches*
- 2.1 *Support technological transfer and commercialisation of research results, strengthening the linkages between research, industry and other private sector actors*

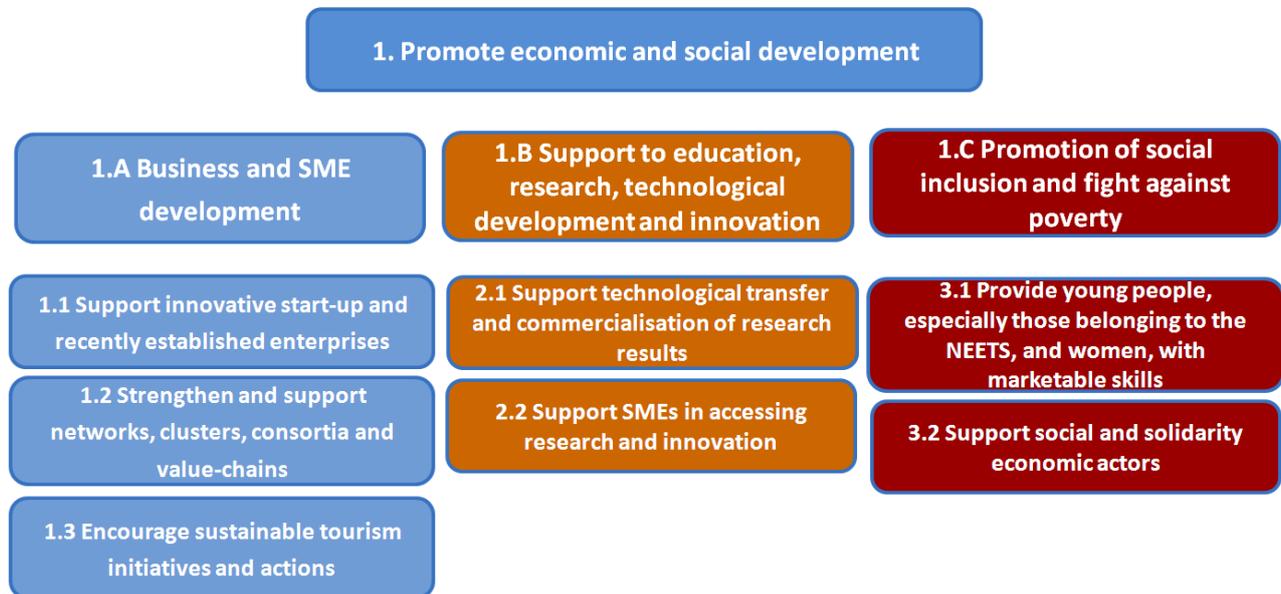
<sup>84</sup> The Draft Programming Document includes the first and second Overarching Objectives as follows: "Promote economic and social development in regions on both sides of common borders" and "Address common challenges in environment public health and the prevention of and fight against crime". The Thematic Objective 4 "Environmental protection, climate change adaptation" has been amended including "and mitigation". All definitions of the Objectives included in this JOP have been agreed among the JPC members and notified to the European Commission.



- 2.2 Support SMEs in accessing research and innovation, also through clustering*
- 3.1 Provide young people, especially those belonging to the NEETS, and women, with marketable skills*
- 3.2 Support social and solidarity economic actors, also in terms of improving capacities and cooperation with public administrations for services provision*
- 4.1 Support sustainable initiatives aimed at finding innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply*
- 4.2 Reduce municipal waste generation and promote source-separated collection and the optimal exploitation of its organic component*
- 4.3 Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings*
- 4.4 Incorporate the Ecosystem-Based management approach to ICZM into local development planning, through the improvement of intra-territorial coordination among different stakeholders*

Priorities 1.1, 1.2 and 1.3 are related to TO1.A, priorities 2.1 and 2.2 to TO1.B, priorities 3.1 and 3.2 to TO1.C, while priorities from 4.1 to 4.4 are related to TO2.A.

Overview Overarching Objective 1, Thematic Objectives and Priorities



Overview Overarching Objective 2, Thematic Objective and Priorities



## 3.2 Programme's contents

### 3.2.1 Typology of intervention

As specified in section 4.4 of the Joint Operational Programme (JOP), the 2014-2020 ENPI CBC Med's thematic objectives and priorities are expected to be achieved through three calls for proposals to implement standard, strategic and capitalization projects. These three typologies of intervention have been selected on the basis of an analysis of the results of the 2007-2013 financed projects and, in particular the specific features of the cooperation area, as indicated on sections 2.1 and 2.2 of the JOP detailing the main socio-economic trends and environmental state.

Indeed, the situation analysis of the eligible territories identified a heterogeneous region in terms of socio-economic trends and environmental status. Evidences of South-to-North gap-bridging are increasing all over the Basin and a flexible approach is highly needed at project level in order to tackle the key issues affecting the area. Given this evolving situation, the ENI CBC Med Programme committee opted to include three different typologies of projects able to tackle a wide number and layers of the common basin's challenges while ensuring sustainability, visibility and dissemination of all project results.

As mentioned above, the decision is backed by the experience of the 2007-2013 programming period, characterized by the funding of standard and strategic projects only and whose sustainability will be further supported and enhanced in the 2014-2020 with integrated actions organized in the capitalization projects. In the spirit of strengthening the cooperation bonds between the two shores of the Mediterranean and to climb up the ladder of the maturity of cooperation (see below for additional details), the future ENI CBC Med Programme will pursue its goals via the implementation of three categories of projects having, in extreme synthesis, the following characteristics:

- Standard projects: demonstration character, pilot examples in a specific field of expertise, reinforcement of networking and cooperation links among relevant stakeholders; project duration up to 36 months for the implementation among a partnership of preferably 7 partners at least supported by EU funding between € 1M and € 3M;
- Strategic projects: deeper focus on emerging needs and specifically identified topics, extended impact on the selected priorities and clear contribution to EU and national policies in the region (need for greater synergic integration with other initiatives and funding opportunities); project duration up to 48 months for the implementation among a partnership of preferably 10 partners at least supported by EU funding comprised between € 2.5M and € 6M;
- Capitalization projects: promotion of the exploitation and/or wider dissemination of the successful practices and results of previously financed projects (both standard and strategic); project duration up to 24 months for the implementation among a partnership of preferably 10 partners at least supported by EU funding between € 500K and € 1M;

After the approval by the Joint Monitoring Committee, the Managing Authority will launch at least one call for proposals for each type of project (standard, strategic, and capitalization). The JMC may decide to open or restrict the calls to some of the Programme objectives and/or priorities.

85 Based on the analysis of the projects financed under the 2007-2013 Programme, 9 out of 19 strategic projects involve more than 10 partners.

## Types of intervention (ceilings)

	Standard	Strategic	Capitalization
Minimum ceiling EU contribution	€1,000,000	€2,500,000	€500,000
Maximum ceiling EU contribution	€3,000,000	€6,000,000	€1,000,000
Minimum countries in partnership	3	4	5
Minimum MPC in partnership	1	2	1
Recommended maximum nr. of beneficiaries	7	10	10
Maximum beneficiaries from same country	3	3	3
Maximum duration <sup>86</sup>	3 years	4 years	1-2 years

### 3.2.2 Types of actions

Both standard and strategic projects – and, in turn, capitalization projects – will be defined and funded according to the rules of cross-border cooperation (CBC) within the frame of the European Neighborhood Policy (ENI). CBC is one pillar of ENI and, within the giving territorial limits of the Mediterranean Sea Basin Programme (ENI CBC Med), aims at strengthening cooperation links between the two shores of the basin. Such goal, as described in the EC's ENI CBC Programming Document of October 2014, can be achieved through a multitude of different initiatives. In the case of the ENI CBC Med Programme, it is expected that the partnership initiatives will lead, mostly, to intangible deliverables, yet of significant added value and impact on the involved territories. This outlook is based on the following elements: 1. Extent and dimension of the partnerships (heterogeneity and complexity), leading to a limited amount of available resources per partner; 2. Experience of the 2007-13 programming period; 3. Degree of maturity of Mediterranean cooperation.

In particular, with regards to points 2 and 3, as elucidated by Markus Perkmann and Sum Ngai-Ling (2002)<sup>87</sup>, cross-border cooperation may be defined according to a four-layer taxonomy based on (i) the dimension of the cooperation area, (ii) the complexity of the [cooperation] scenario, (iii) the nature of the border(s), and (iv) the [European/international] perception of the cooperation. Each of the layers is composed by a number of different features which help illustrating the degree of maturity of the cooperation in a given context or region. The maturity concept, introduced by Joachim Beck in 2004, supports the definition of the Programme's objectives and priorities, shaping its expected results and impacts<sup>88</sup>. Cooperating with a cross-border perspective implies therefore the capacity of the involved actors to understand their starting point on the scale and the ability to formulate proposals aiming at producing the needed added value to progressively step-up the cooperation pyramid.

<sup>86</sup> The JMC may decide about further extension that could be granted to an approved project.

<sup>87</sup>Perkmann, M. (2002) "Eurorregions: Institutional Entrepreneurship in the European Union" in Perkmann, M. and Ngai-Ling, S. (Ed.) (2002) Beck identifies six levels of growing cooperation (from bottom to top): 1. Meeting (Getting to know each other, learning about motivation, interests, needs, skills, expectations, cultural and structural aspects); 2. Information (Developing [targeted] exchange of information, building basic cooperation structures and trust, shaping cooperation ideas); 3. Coordination / Representation (Creating a joint partnership structure, first allocation of functions and roles); 4. Strategy / Planning (Defining joint objectives and developing concrete actions); 5. Decision (Binding commitment of partners, partnership agreements); 6. Implementation (Joint implementation of actions, efficient joint management, fulfillment of requirements by each partner) ("Maturity of Cooperation", Beck J., in "Technical Project Management Handbook", INTERACT (2004))

The 2014-2020 ENI CBC Med Programme will represent only the second programming period of cross-border cooperation involving European and partner countries in the Mediterranean, a region characterized by significant unbalances and lacking of economic, social and territorial cohesion: therefore, stepping up the cooperation ladder will require an additional effort at Programme and project levels in terms of (institutional) capacity building and leveraging on the local sense of ownership.

As a consequence, it is expected that both standard and strategic projects and, in turn, capitalization projects, will be largely characterized by intangible actions with limited pilot interventions. A synthetic classification of potential actions is provided in the following section.

### 3.2.3 Programme's objectives

This section gives a brief description of each single Thematic Objective and identifies its respective priorities.

In the tables below for each priority are identified:

- Expected Results
- Indicative list of output
- Indicative type of actions

Those information will be subjected to environmental assessment in Chapter 5.

## Overarching Objective 1 : Promote economic and social development

### 1. Promote economic and social development

#### 1.A Business and SME development

1.1 Support innovative start-up and recently established enterprises

1.2 Strengthen and support networks, clusters, consortia and value-chains

1.3 Encourage sustainable tourism initiatives and actions

#### 1.B Support to education, research, technological development and innovation

2.1 Support technological transfer and commercialisation of research results

2.2 Support SMEs in accessing research and innovation

#### 1.C Promotion of social inclusion and fight against poverty

3.1 Provide young people, especially those belonging to the NEETS, and women, with marketable skills

3.2 Support social and solidarity economic actors

### Thematic Objective 1 - Business and SME development

One of the biggest challenge of the Programme area is the creation of economic opportunities and jobs to reduce the high rates of unemployment, especially among youth, that the countries of the area are experiencing, and absorb the high number of new entrants into the work force, especially in the MPCs. Responding adequately to the job challenge is even more pressing in this phase of political transformation and economic crisis.

It is widely recognised that Micro, Small and Medium Enterprises (MSMEs) - over 90% of the total enterprises in the region - represent a significant economic and employment driver for the area, as they can generate jobs and play a leverage role in stimulating growth and innovation processes.

The sectoral analysis on MSMEs and the related strengths, weaknesses and medium term needs, clearly shows that Mediterranean MSMEs face a number of challenges that might undermine their competitiveness on domestic and foreign markets, as well as their overall sustainability. In order to support medium to long-term competitiveness, the Programme is to focus on selected aspects that might contribute to improve the overall business framework.

One aspect is related to innovation, including both process and product upgrading. In fact, continuous technological, managerial and operational innovation is a major driver for competitiveness and productivity gains and, therefore, for ensuring MSMEs sustainability and growth. It allows firms to adapt to changes in the end market and can stimulate long run endogenous economic growth.

Another aspect is related to the globalization challenge. Export is a strong precursor of growth. Establishing international linkages and clusters, as well as other cooperation forms among MSMEs, is crucial to overcome MSMEs intrinsic dimensional limits and achieve economies of scale beyond the reach of individual firms, but it has also the indirect advantage of stimulating enterprises to learn from each other and exchange experiences, sharing access to research and testing facilities, etc.

A sector that deserves special attention, given its significance in the area, is tourism. Indeed, tourism is a major pillar of the economies of the area, both in terms of contribution to GDP and to employment. Tourism faces important challenges that the Programme shall address and that are mainly related to the seasonality of tourism products in the Mediterranean.

In consideration of the above, three priorities have been selected under TO1: the first two are meant to be a targeted response to some of the main challenges MSMEs are called to face, whereas the third is thematically focused on a specific sector, critically important in the euro-Mediterranean context, i.e. tourism.

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: Promote economic and social development</b>		
<b>Thematic Objective 1: BUSINESS AND SMES DEVELOPMENT</b>		
<b>Priority 1.1: Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialization where applicable</b>		
Innovative start-up enterprises having a cross border dimension managed by youths (graduates or equivalent between 24 and 35 years old) and/or women (all ages) sustainably grow their share in traditional and non-traditional sectors	<p>Training, mentorship, tutorship provided to young entrepreneurs (24-35 years old) and women (all ages) through youth-to-youth and women-to-women support and mentor networks.</p> <p>Investment schemes with risk capital dedicated and accessible to the start-ups.</p> <p>Local hubs and accelerators created to train/coach and host talents in the creative sectors.</p>	<ul style="list-style-type: none"> <li>• Strengthening the ties between academia and business sectors through the facilitation of the transfer of scientific and technological knowledge, the development of pilot initiatives, trade facilitation, etc.</li> <li>• Supporting training for networking and participation of young and female entrepreneurs in business-development initiatives</li> <li>• Promoting pilot initiatives for the diffusion of the entrepreneurial spirit among young and women, with specific focus on sustainable, environment-friendly and innovative actions</li> <li>• Promoting the exchange of knowledge, know-how and competences as well as public-private partnerships business opportunities and market expansion</li> <li>• Strengthening the offer of tertiary and post-tertiary education and training to provide qualified human resources to local businesses</li> </ul>
Increased share of youths/women staff in managerial positions in companies recently established (since 2011) that access and develop innovative markets domestically and/or in other MED countries	<p>Specialized supporting services provided, such as in R&amp;D services, sector specific product development services, scientific partner search etc that address especially needs of young/women staff in recently established enterprises.</p> <p>New products/services/tools for enterprises to foster distribution, retail and access of products to new customers.</p> <p>Open Data initiatives / websites or learning platforms launched/developed.</p>	<ul style="list-style-type: none"> <li>• Promoting incentives for trade and exchange of knowledge, know-how and competences as well as business opportunities and market expansion</li> <li>• Supporting coaching on trade and business relations through the development of networks of public and private institutions</li> <li>• Facilitating the development and implementation of joint strategies for the diffusion and promotion of traditional and non-traditional Mediterranean products and services</li> <li>• Developing strategies and initiatives for the enhancement of mobility schemes for the competitiveness of traditional Mediterranean sectors (handicraft industry, agro-food products, sustainable tourism, etc.)</li> </ul>
Increased capacity of public authorities to facilitate access to and protect –Intellectual Property Rights (IPR) and commercial contracts of youths and women entrepreneurs	<p>Bilingual (Arabic/English) and (Arabic/French) simple guidebook for business development.</p> <p>IPR awareness campaigns designed and implemented.</p> <p>Existing “one-stop-shop” service providers specialized in support services for start-ups and recently established firms (e.g. for technology transfer and</p>	<ul style="list-style-type: none"> <li>• Facilitating the development and implementation of joint strategies for the access and protection of IPR and commercial contracts, notably involving public-private partnerships</li> <li>• Promoting the access of local businesses and start-ups to information on IPR and IPR-related matters</li> <li>• Exchanging experiences, knowledge and know-how for the development of legal basis and</li> </ul>

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
	proof of concept projects) reinforced or newly established.	procedures for the improvement and internationalisation of national IPR laws and regulations
<b>Priority 1.2: Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)</b>		
Increased number of MSMEs participating in Euro-Mediterranean enterprise alliances	<p>Quality consultancy services provided to SMEs (e.g. marketing, logistic advices, internationalization, ICT applications, governance, clustering, etc.).</p> <p>International business events / initiatives aiming at enlarging activities to new markets of enterprises involved in CBC-MED projects.</p> <p>New joint products / brands developed in key sectors or locations, that provide added value.</p>	<ul style="list-style-type: none"> <li>• Networking actions through international business events and initiatives organized aiming at enlarging activities in new markets by enterprises involved in CBC-MED projects</li> <li>• Facilitation of business exchanges and networking also by approaching legislations and international procedures in key Mediterranean economic sectors</li> <li>• Development of pilot and demonstrative products and/or services providing added-value to the target area/group</li> <li>• Strengthening the provision of joint consultancy services for Mediterranean businesses (e.g. marketing, logistic advices, internationalization, ICT applications, governance, clustering, etc.)</li> </ul>
Cross-border-enterprise alliances empowered by the support from and cooperation with public authorities	<p>Public Private Partnerships (PPPs) between public actors and enterprises involved in CBC-MED projects formally established during project implementation and operating beyond project closure.</p> <p>Trainings provided to and joint pilot initiatives undertaken by business actors, civil servants, responsible public authorities and relevant stakeholders at regional level on the adoption of PPP models.</p> <p>Effective alliances set-up involving stakeholders, enterprises, public sector and non-profit organisations to promote cross-border economic activity.</p>	<ul style="list-style-type: none"> <li>• Creation/Strengthening of new/existing public-private partnerships, alliances and of the networking among Mediterranean business initiatives to promote innovation, investments and commercial schemes</li> <li>• Training of entrepreneurs and public officers on the role and usefulness of public-private partnerships for business development and sustainable growth</li> <li>• Organisation of campaigns/events (e.g. global fora, seminars, platforms etc.) where public sector and PPP practitioners exchange knowledge to support value chains and their economic activities</li> <li>• Fostering of Mediterranean cross-border trade relations via pilot projects having a comprehensive approach to local/regional development</li> </ul>
<b>Priority 1.3: Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches</b>		
<p>Increased attractiveness of less known touristic destinations</p> <p>Increased diversification of tourism offer through the promotion of local and territorial assets / drivers in off season periods</p>	<p>Quality Support services (technical and financial assistance) provided to Local communities, SMEs, tour operators, protected area managers, and other relevant stakeholders for the different types of tourism (i.e. eco-tourism, adventure tourism, medical tourism, wine and food tourism, historic, cultural and religious tourism, etc.).</p> <p>Increased accessibility and visibility as well as improved environment of less-developed touristic areas.</p> <p>Diversified products/tools created to address selective</p>	<ul style="list-style-type: none"> <li>• Joint definition of strategies and promotional initiatives for sustainable tourism in the Mediterranean (joint development of new products or trans-Mediterranean touristic services/routes, exploitation of new markets, etc.)</li> <li>• Increasing the competitiveness of MSMEs operating in the touristic sector in less popular destinations via networking, exchange of best practices, know-how, promotion of alternative forms of tourism (eco-tourism, adventure tourism, medical tourism, wine and food tourism, historic, cultural and religious tourism, etc.)</li> <li>• Training of touristic operators and other groups of relevant stakeholders (e.g. farm owners, tourist site managers, staff, etc.) on alternative forms of tourism (specific niches having cross-</li> </ul>

<b><i>Expected Results</i></b>	<b><i>Indicative list of output</i></b>	<b><i>Indicative type of actions</i></b>
	<p>demand in the off- season.</p> <p>Sustainable practices promoted into planning and decision making processes and day to day operations of national, regional and local governments, as well as of the tourism industry.</p> <p>Training / initiatives addressed to diverse groups of business and service providers (e.g. farm owners, tourist site managers, staff, etc.).</p> <p>Training and awareness raising campaigns (thematic seminars, etc.) aimed to sensitize local communities (schools visits and demonstrations, fairs, etc.) and the private sector.</p>	<p>border dimensions)</p> <ul style="list-style-type: none"> <li>• Joint definition of commercial strategies and promotional initiatives for sustainable and niche tourism in the Mediterranean (joint development of new products or trans-Mediterranean touristic routes, exploitation of new markets, etc.)</li> <li>• Strengthening of public-private partnerships aimed at fostering co-decision among local communities on touristic plans and initiatives</li> <li>• Promoting alternatives for niche tourism aiming at reinforcing local assets</li> </ul>

## Thematic Objective 2 – Support to education, research, technological development and innovation

The sectoral analysis on innovation, and the related strengths, weaknesses and medium-term needs, stresses that innovation is a major driver for competitiveness and growth. The Mediterranean countries are quite heterogeneous in terms of innovation policies and expenditures. Improving the linkages between the various innovation players, notably the science system and higher education, the government, the private sector, and also the not-for-profit sector is considered one of the main challenges of this thematic sector.

In light of the above, participating countries stressed the need for the area to create and strengthen a system to optimize research investment, enhance effectiveness of research results, and expand its social, economic and commercial benefits to societies. Such an integrated system could improve operations and synergies among different players (notably the science system and higher education, the government, the private sector). Each of the public and private entities operating in the field of innovation play a diverse, yet complementary, role vis à vis innovation and research: governments and public institutions are key players for creating favourable conditions for innovation, supports innovative firms and universities through incentives and other mechanisms; research institutions are typically involved in basic and applied research and generate new knowledge; firms are crucial in turning knowledge into new products and services, and are active particularly in the part of the R&D leading to commercialisation through development testing, prototypes, etc. Coordination and synergies among these players are essential to build an effective system. Another important aspect that partner countries agree in considering very relevant for the Mediterranean area is SMEs access to innovation. Often, Mediterranean SMEs lack capabilities, and financial and human resources, to access technologies that could improve their products, enhance their competitiveness and adapt to changing and new needs of end markets.

With respect to some of the specific technologies the ENI-CBC Programme might focus on, partner countries indicated clean/environmental technologies (from renewable energies to water to eco-construction, etc.) as very relevant; other specific technologies relate to new technologies applied to cultural heritage (conservation techniques, new technologies for 3D-illustrations, e-learning, interactive technologies for museums). In addition, it is also important to mention the importance of Key Enabling Technologies (KETs), given their intrinsic systemic value and the role they can play in building a knowledge economy. All taken into consideration, the countries participating in the Programme have identified two priorities as most relevant and better reflecting the common challenges that the Mediterranean countries have to face under this TO.

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>		
<b>Thematic Objective: 1.B SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION</b>		
<b>Priority 2.1: Support technological transfer and commercialisation of research results, strengthening the linkages between research, industry as well as private sector actors</b>		
Enhanced demand driven technological transfer among research, industry and SMEs in the fields of clean/environmental technologies, new cultural heritage technologies and Key Enabling Technologies (KETs)	<p>Living labs established where the scientific, industry and business communities can work and innovate together by matching the demands of innovation (SMEs) and offer of technological solutions (research actors/Universities).</p> <p>Enhanced institutional capacity to manage cross sector projects involving both science and industry.</p> <p>Increased specialised staff engaged in industries and SMEs in the targeted fields.</p>	<ul style="list-style-type: none"> <li>Facilitating the creation of joint Mediterranean research and industrial networks, agencies, etc. to strengthen the sharing and dissemination of R&amp;D</li> <li>Strengthening the links between research institutions (universities, research centers and institutes, etc.) and business, networking and dialogue facilitation</li> <li>Joint definition of development strategies for technological transfer, clean/environmental technologies, cultural heritage and KETs in the Mediterranean regional</li> <li>Supporting economic activities in tradition and non-traditional sectors in decentralized areas via the promotion of clean/environmental,</li> </ul>

<b>Expected Results</b>	<b>Indicative list of output</b>	<b>Indicative type of actions</b>
	<p>Enhanced capacity of public authorities and specialized intermediaries (e.g. Technology transfer offices located at Universities) that are aimed at the development of new services (e.g. Support for Proof of concept projects).</p> <p>Co-publications (in specific technological fields).</p>	<p>cultural heritage technologies and KETS</p> <ul style="list-style-type: none"> <li>• Designing pilot projects to implement, disseminate and promote the use of environmental certifications, such as EMAS and ISO 14001, and procedures of territorial planning developed under Agenda 21, in business activities</li> <li>• Joint definition of strategies and activities to promote the use of clean/environmental technologies</li> </ul>
<p>Increased commercialization opportunities of research products in the fields of clean/environmental technologies, new cultural heritage technologies and Key Enabling Technologies (KETS)</p>	<p>New products/services developed for commercialisation in the ear-marked technological fields.</p> <p>Effective platforms allowing a pre-competitive analysis of promising products and services.</p> <p>Science to business brokerage events/fairs organised (e.g on market opportunities for researches and business actors).</p>	<ul style="list-style-type: none"> <li>• Facilitating the creation of joint Mediterranean research and industrial networks, agencies, etc. to strengthen the sharing and dissemination of R&amp;D</li> <li>• Strengthening the links between research institutions (universities, research centers and institutes, etc.) and business, networking and dialogue facilitation</li> <li>• Joint definition of development strategies for technological transfer, clean/environmental technologies, cultural heritage and KETS in the Mediterranean regional</li> <li>• Supporting the introduction and development of innovative technical and financial services to local business to give impulse to research and innovation and to the subsequent commercialization of new products/services</li> <li>• Fostering the creation of public-private partnerships to ensure the reinforcement of the links between research and business, also through the exchange of best practices, training of local actors and co-development of innovative products and services</li> </ul>
<b>Priority 2.2: Support SMEs in accessing research and innovation also through clustering</b>		
<p>Upgraded innovation capacity of SMEs participating in CBC Med projects in processes, products and management systems for uptake of research outcomes</p>	<p>New and/or adapted business support services developed in compliance with SME needs to raise capacities of SMEs for greater innovation and management efficiency (e.g. mentoring, training, coaching schemes, etc.).</p> <p>Cross-border innovation advisory support services developed (e.g. Innovation Voucher, Product &amp; Idea development, Market Research, Sales, Finance and Funding, Networking, etc.).</p> <p>Tailored training events for SMEs, public authorities, researchers, managers, relevant businesses and end users.</p>	<ul style="list-style-type: none"> <li>• Developing new and/or adapted business support, including IT services, to raise capacities of SMEs for greater innovation and management efficiency</li> <li>• Developing joint cross-border supportive plans in close cooperation with SMEs reaching out to investments opportunities for new products/services/processes</li> <li>• Training and mentoring of SMEs' entrepreneurs for implementing and making good use of innovative products/services/processes</li> <li>• Facilitating the creation of inclusive clusters for innovation in products, services and processes, including members from all economic actors (public, private, R&amp;D, no profit, etc.)</li> </ul>

### Thematic Objective 3 - Promotion of social inclusion and fight against poverty

TO 3 seeks to tackle a critical issue for the area that includes two complex, yet interrelated, phenomena: social exclusion and poverty.

Poverty is a multidimensional phenomenon that can be defined as deprivation due to a lack/scarcity of both material and non-material resources, e.g. income, housing, health, education, knowledge and culture. Social exclusion is the effect of a range of difficulties that act as barriers to life opportunities and happens when someone is left out of mainstream society, deprived from participating fully in society. The conditions that prevent people from participating fully in society may include economic poverty, poor health, disabilities, poor education or skills and discriminatory or inequitable treatment.

People are excluded not only for being poor, but also for who or where they live, and as a result they are locked out of the benefits of development. Because of the inadequate income and resources, people may be marginalised from fully participating in the social and political life.

Thus, the term social inclusion refers to a multidimensional phenomenon or process that goes beyond material poverty to encompass a vast array of concepts that include also integration and minorities (gender, disabled, youth, elder, etc.), access to services, access to basic needs (food and shelter), employment, political participation, citizenship and civil networks (popular organization and solidarity), access to information.

The socio-economic analysis underscored that poverty and social exclusion are crucial issues in both European and Mediterranean partner countries. Further aggravated by the recent crises, the percentage of the population at risk of poverty and social inclusion has soared up in the EUMCs and regional inequalities are widening. The incidence of poverty has risen also in MPCs, where stark differences between rural areas (lack of access to clean water, poor education, inadequate health services and inadequate infrastructure) and the urban areas along the coasts enjoying higher living standards still persist.

Women and youth, particularly the so-called NEETS (young people Not in Employment, Education and Training), are among the most disadvantaged categories across the area and have been severely affected by the economic crisis.

Partner countries also support the vision that improving outreach, efficiency and effectiveness of services to population is another important aspect that is to be duly taken into account by the Programme.

In consideration of the above, two priorities have been singled out under this Priority.

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>		
<b>Thematic Objective 3: PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST POVERTY</b>		
<b>Priority 3.1: Provide young people, especially those belonging to the NEETS, and women with marketable skills</b>		
Increased employability of women (all ages) and youths up to 30 years old, especially those belonging to the NEETS	<p>Branding' and marketing campaigns to enhance services that foster youth employment.</p> <p>Targeted training courses oriented to the labour market addressing youths (18-24 years old) and women (all ages) especially those belonging to vulnerable groups.</p> <p>Innovative learning tools and methodologies supported by new technologies (social media; mobiles).</p> <p>Coaching and tutoring actions with leading mentors, especially women, from successful businesses and civil society groups.</p>	<ul style="list-style-type: none"> <li>• Promoting initiatives aimed at reducing school drop-out rates and at reintroducing NEETS in educational paths</li> <li>• Strengthening and enlarging the offer of tertiary, post-tertiary and vocational education and training, notably in rural areas and addressed at those economic sectors constituting the backbone of the cooperation area (agro-food, textile, tourism, etc.)</li> <li>• Promoting cooperation in culture and education among the target groups and including teachers, educators and sector's operators</li> <li>• Promoting networking, platform creation and pilot experiencing to increase exchange on experiences and opportunities of job creation and employability in the Mediterranean, including via public-private platforms and networks</li> </ul>

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
	<p>Initiatives to better connect Technical Vocational Education and Training (TVET) with market needs and socio-professional sectors.</p> <p>Social employment initiatives jointly implemented by public institutions and civil society organisations.</p>	<ul style="list-style-type: none"> <li>Enhancing the sustainability of employment through lifelong learning programmes and initiatives at cross-border level</li> </ul>
<b>Priority 3.2: Support social and solidarity economic actors, also in terms of improving capacities and co-operation with public administrations for services' provision</b>		
<p>Enlarged access and improved quality of existing social services in favour of vulnerable people</p> <p>Reinforced planning, operational capacities and cooperation of public administrations and relevant stakeholders in providing social services</p>	<p>Social pilot schemes jointly developed for social services to the benefit of vulnerable populations.</p> <p>Cross-border learning and sharing events of different actors tackling specific social issues.</p> <p>Established and/or strengthened social and solidarity actors. Workshops, on-line platforms, etc., for learning and sharing about cooperation modalities for social services delivery.</p> <p>Case studies, reports, analysis on modalities for delivering social services.</p> <p>Cross-border staff exchanges and joint trainings among public authorities to plan, implement and coordinate social service delivery.</p>	<ul style="list-style-type: none"> <li>Promoting joint structures for the observation, analysis and – ultimately – proposals for reform of social services in the Mediterranean territories, including the association of local communities and governments from both shores of the Basin</li> <li>Promoting information, education and awareness-raising campaigns on the availability of social services for vulnerable sectors of the society and on their access</li> <li>Drafting of joint programmes/plans/pilot initiatives for improving skill qualifications and avoid social exclusion of vulnerable groups</li> <li>Exchange of good practices on (local) public policies, in cooperation with the civil society (NGOs, associations, citizens), aiming also at the joint elaboration of actions plan for social services for the target group(s) in the cooperation area</li> <li>Training for civil servants, social services' operators and other relevant stakeholders on new innovative forms of social inclusion</li> <li>Facilitation of networking among the sector's operators, enhancing exchange, dialogue, mutual understanding and co-decision</li> </ul>

## Overarching Objective 2 : Address common challenges in environment

### 2. Address common challenges in environment

#### 2.A Environmental protection, climate change adaptation and mitigation

4.1 Support innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply

4.2 Reduce municipal waste generation and promote source separated collection and the optimal exploitation of its organic component

4.3 Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings

4.4 Incorporate the Ecosystem-Based management approach to ICZM into local development planning

### Thematic Objective 4 - Environmental protection, climate change adaptation and mitigation

Taking into account the characteristics of the Programme, as well as the results of the strengths, weaknesses and medium-term needs analysis, the partner countries jointly decided to dedicate a standalone priority to environmental challenges, focusing on a number of issues that are considered of the uttermost importance for the area, i.e. water, waste management, renewable energies and energy efficiency, integrated coastal zone management. These four issues were among the six topics identified for the strategic projects under the 2007-2013 Programme.

The sectoral analysis and the related data highlighted that water availability in the Mediterranean basin is limited and resources are unevenly distributed, with countries suffering from water scarcity. Water is a renewable resource but its capacity to self-generate varies according to space and time; over-exploitation of this resource could lead to disequilibrium in water balance. Some Countries of the area are close to or exceed the average annual volume of renewable natural resources.

Waste, and particularly efficient systems of municipal solid waste management (integrating reduction, re-use and recycle measures), represents still an important challenge for Municipalities of the Programme area. Europe succeeded in decoupling, that is in breaking the link between the production of material wealth and the production of waste, but EUMCs have room to further reduce their waste generation to align with EU countries average (500 kg/capita/year). In MPCs, estimations indicate a significant increase in municipal waste generation rate from 1998 to 2010 in MPCs.

GHG emissions due to CO<sub>2</sub> connected with energy use are over 70% in the Mediterranean (accounting for around 7% of the World's total CO<sub>2</sub> emissions). Energy demand has grown by 1.8% per year from 1990 to 2009 – driven by transport in the EUPCs and by industrial and residential sectors in MPCs – and is projected to increase by less than 1.7% per year on average until 2030; therefore, it becomes imperative to try to satisfy these growing needs but at the same time comply with international obligations (to control global warming) and tackle economic sustainability issues (related to scarcity and price volatility).

Despite a comprehensive legal framework, clearly a sign of the Countries' political commitment, "the Mediterranean continues to be a valuable, treasured region, yet one clearly under threat" and there is a

strong need to manage coastal areas in an integrated manner and make planning efforts consistently with the Ecosystem-Approach.

All taken into consideration, TO4 focuses on the following 4 priorities.

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT</b>		
<b>Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION</b>		
<b>Priority 4.1: Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply</b>		
<b>Expected Results</b>	<b>Indicative list of output</b>	<b>Indicative type of actions</b>
Increased adoption of innovative sustainable water-efficiency technologies and systems in agriculture by public authorities, specialized agencies and other relevant stakeholders	<p>Functional cross-border research networks on efficient water use and use of non-conventional water supply for irrigation purposes.</p> <p>New / enhanced cross-border thematic practitioner networks on water in agriculture with broad involvement of different relevant stakeholders to compile, disseminate and further develop technological solutions and stakeholder dialogue and water governance approaches</p> <p>Tailored training events on water-use efficiency and non-conventional water, addressed to farmers, practitioners and other relevant stakeholders.</p> <p>Initiatives/pilot projects to showcase, exchange, test and transfer water management solutions (water-efficient irrigation, drip-irrigation, grey water/ wastewater treatment plants).</p> <p>Water management and local governance plans in participating countries that integrate non-conventional water resources and water efficiency concerns.</p>	<ul style="list-style-type: none"> <li>• Developing good practices in the management of water, waste water and non conventional water in agriculture, mainly through exchange of experiences and networking</li> <li>• Enhancing sanitary quality of water through pilot actions and demonstrative initiatives, notably in vulnerable areas and in regions characterized by water scarcity and/or draught phenomena</li> <li>• Supporting the implementation and diffusion of new technologies for water efficiency and sanity, notably through pilot actions and exchange of best practices among relevant actors</li> <li>• Training of local agricultural producers, public agencies' civil servants and other relevant stakeholders on the efficient use of water and on new technologies to scale-up water management</li> </ul>
Support research and development for locally applicable and low-cost technologies for the use of non conventional water resources for domestic purposes	<p>Tailored trainings and events to raise awareness on the use of non-conventional water resources for domestic water supply.</p> <p>New/enhanced cross-border thematic practitioner networks on domestic water supply with broad involvement of relevant stakeholders to compile, disseminate and further develop technological solutions and stakeholder dialogue and water governance approaches.</p> <p>Initiatives/pilot projects to showcase, exchange, test and transfer water management solutions. (rooftop water harvesting, grey water/ wastewater treatment plants, desalination plants)</p>	<ul style="list-style-type: none"> <li>• Development of pilot projects and demonstrative initiatives for the transfer of experiences and knowledge on water management and low-cost technologies for the domestic use of non-conventional water</li> <li>• Training of householders, representatives of public authorities and other relevant stakeholders on the efficient use of water and on new technologies to scale-up water management</li> <li>• Strengthening and support of links between research and public utilities for the implementation and diffusion of new low-cost technologies to non—conventional water management</li> </ul>

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT</b>		
<b>Priority 4.2: Reduce municipal waste generation, promote source separated collection and its optimal exploitation in particular its organic component</b>		
<p>Efficient and effective integrated municipal waste management systems are planned and operationalized on a pilot basis</p>	<p>Twinning and other exchange programs to improve technical and operational capacities of public administrations and relevant institutions/bodies.</p> <p>Tailored events and trainings delivered to municipal officials and staff.</p> <p>Cross-border plans and pilot actions on integrated municipal waste management, in close cooperation with private companies.</p> <p>Common solutions and approaches developed for optimization of the Municipal Waste Management System.</p> <p>Increased awareness of citizens, industries and SMEs towards the reduction of waste generation, reuse and product valorisation.</p>	<ul style="list-style-type: none"> <li>• Exchanges among local Mediterranean administrations on waste management systems and technologies, for the elaboration and implementation of good practices in waste treatment</li> <li>• Training and professionalisation of waste management professionals</li> <li>• Promoting public-private partnerships and agreements for better waste management and larger use of innovative processes</li> <li>• Organisation of joint communication and awareness-raising campaigns and events for the promotion of efficient waste collection among the local populations</li> <li>• Pilot initiatives and demonstrative projects for the reuse of waste and for higher efficiency in the treatment phase</li> <li>•</li> </ul>
<b>Priority 4.3: Renewable energy and energy efficiency - Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings</b>		
<p>Enhanced capacity of public institutions to plan and implement sustainable energy policies and measures with regard to public buildings.</p> <p>Reduced and cleaner energy consumption in public buildings through the use of renewable energy measures and energy saving interventions</p>	<p>Administrative and legal provisions for sustainable urban design through innovative approaches regarding sustainable building and energy efficiency .</p> <p>Energy-mix efficiency plans/strategies developed to stimulate cost-effective deep renovations of buildings.</p> <p>Cross-border case studies that demonstrate potential replication of proposed measures and solutions (including technologies, methodologies, systems or tools).</p> <p>Twinning and knowledge sharing activities involving public authorities.</p> <p>Implementation of pilot cost-effective technologies for energy efficiency and renewable energy.</p> <p>Energy performance certificates.</p> <p>Renewable energy systems (solar, etc) application to public buildings.</p>	<ul style="list-style-type: none"> <li>• Exchanges among local Mediterranean administrations on elaboration and implementation of good practices in energy efficiency</li> <li>• Facilitating public-private partnerships for the development of cross-cutting strategies for energy efficiency in public buildings</li> <li>• Developing strategies and pilot projects and demonstrative initiatives for the diffusion of energy performance certificates and energy audits</li> <li>• Application of renewable energy – or other cost-effective technologies for energy efficiency - systems to public buildings (demonstative actions and pilot projects)</li> </ul>

<i>Expected Results</i>	<i>Indicative list of output</i>	<i>Indicative type of actions</i>
<b>Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT</b>		
<b>Priority 4.4: Integrated Coastal Zone Management - Incorporate the Ecosystem-Based management approach to ICZM into local development planning, through the improvement of intra-territorial coordination among different stakeholders</b>		
<p>Enhanced capacity of public authorities to plan for, sustainably manage, use and monitor their coastal ecosystems, using an effective participatory approach with relevant stakeholders and local communities</p>	<p>Training activities and workshops addressing different stakeholders to support ecosystem-based planning and management for coastal zones.</p> <p>Spatial planning software, information tools (GIS) and tools for data analysis, data integration and forecasting in support of decision-makers that contribute to ecosystem assessment and monitoring of Mediterranean coastal zones.</p> <p>Knowledge sharing platforms benefitting local stakeholders involved in coastal planning and management.</p> <p>Communication materials for dissemination and engagement with societal stakeholders and the public at large, e.g. via schools, aquaria, maritime and science museums, etc.</p> <p>Studies and data collection activities aimed at improving knowledge of marine ecosystems and their interlinkages with human activities.</p>	<ul style="list-style-type: none"> <li>• Organisation of training activities and workshops addressing different stakeholders to support ecosystem based planning and management for coastal zones</li> <li>• Pilot initiatives for the implementation, use and diffusion of new/innovative/existing technologies for ICZM</li> <li>• Joint definition among Mediterranean territories of sustainable strategies/plans for ICZM</li> <li>• Organisation of communication and awareness-raising campaigns for the diffusion of best practices and knowledge on ICZM and for the enhancement of societal engagement</li> <li>• Sharing and diffusion of knowledge on ICZM and reduction of coastal hazard via researches and field studies</li> </ul>



### 3.3 Environmental sustainability and democracy issues

Programme Priorities, as highlighted even in the Programme, strongly take into account the environmental sustainability issues and their relations with the social and economic dimensions.

In fact four out of the eleven priorities of the Programme are dedicated to the environment: priority 4.1 deals with the water efficiency issue, priority 4.2 deals with the waste management issue, priority 4.3 addresses the problem of renewable energy and energy efficiency and priority 4.4 the Integrated Coastal Zone Management one.

In addition, other priorities are linked, directly and indirectly to environmental sustainability: priority 1.2, that include support for those forms of enterprise associations that also operate in the fields of eco-housing, sustainable water-related and other clean technologies, renewable energy, and priority 1.3 on sustainable tourism.

Also democracy is one of the main contents of Programme Priorities, providing an environment for the protection and effective realization of human rights. The Programme includes specific priorities addressing poverty, exclusion and inequality and one of the three key orientations on which cooperation among participating territories will be inspired and focused is institutional capacity building. Strengthened inclusive and democratic institutions will be essential for enhancing good governance and rule of law. The implementation of the Programme will be people-centred and ensure a rights-based approach encompassing all human rights and combat discrimination, including through enhancing gender equality. It will include in all its activities (including the projects) the principle of non-discrimination, preventing any discrimination based on race, sex, nationality, language or religion. Special attention will be paid to promote respect for the rights of workers and immigrants.

Gender mainstreaming is an important cross-cutting issue in all aspects of work within the Programme. Indeed, gender equality and women and girls' empowerment are important elements for a fair, equitable and inclusive sustainable development. Within the specific thematic objective of the Programme (TO 3) dedicated to poverty eradication and social inclusion, special attention is devoted to women together with another disadvantaged category of people represented by youth, particularly those belonging to the NEETS category. In addition, also other priorities directly consider aspects related to gender and women empowerment, as for priority 1.1 on start-ups. The Programme is committed to and will pursue empowerment and human rights of women and girls with a view to ending all forms of discriminations, ensure equal access to resources and equal opportunities in all spheres of life for both men and women. To this end, the Programme should address legal, social and economic barriers to gender equality and Programme partners and institutions involved are strongly encouraged to include gender considerations in all their activities and particularly in planning exercises.



2014-2020  
Towards the new  
ENI CBC Med Programme  
Vers le nouveau  
Programme IEV CT Med  
نحو برنامج ENI CBC Med جديد



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## Strategic Environmental Assessment - screening procedure

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# Chapter 4



# Coherences

## 4.1 Coherence and complementarities

An important step of an environmental assessment process is to verify the coherence between the objectives of the Programme and the programmatic framework of the context in which it occurs.

The Programme strategy focus on a limited number of Priorities on which an effective cross-border cooperation both adds value to local, national and regional policies and does not cover elements already funded or more suitably to be funded by other programmes and initiatives. In particular, the ENI CBC MED added value is based on the participation of a wide range of actors resulting in international partnerships sharing different backgrounds and expertises and directly committed in the local governance processes.

The ENI-CBC-MED Programme already addresses this kind of analysis regarding its coherence and complementarity with main policies, new EU Programmes and other relevant initiatives.

In order to ensure the completeness of the information, this Chapter is organized as follows:

- Section 4.2 reports the coherences and complementarities already identified in the Programme;
- Section 4.3 highlights the coherences between the Programme and the Mediterranean Strategy for Sustainable Development (MSSD);
- Section 4.4 explains the continuity with the ENPI-CBC-MED Programme 2007-2013.



## 4.2 Coherence and complementarities with other EU Programmes and policies

### 4.2.1 Main policies, initiatives and relevant actors for the Programme's intervention strategy

This section illustrates the main actors and new initiatives at Euro-Mediterranean level which relate to the Programme intervention strategy. Finally, the coherence and complementarities of the Programme strategy with new EU Programmes of 2014-2020 and other relevant initiatives is also reported.

As already mentioned in the introduction, the new European Neighbourhood Instrument (ENI), provides increased support to sixteen partner countries to the East and South of the EU's borders. The priority areas for EUROMED regional co-operation are included in the Programming Document<sup>89</sup>. The bilateral programmes, the Multi-country programme for the Euro-Mediterranean partnership and other CBC programmes are under preparation and will be considered once approved for complementarities and synergies, also in cooperation with the EU delegations.

The main relevant actors, whose initiatives are consistent with the Programme intervention strategy, include: the **Union for the Mediterranean (UfM)**, the **World Bank**, the **Euro-Mediterranean Regional and Local Assembly (ARLEM)**, and the **Conference of Peripheral Maritime Regions (CPMR)**, in particular its Inter-Mediterranean Commission (IMC).

Within the on-going initiatives of the UfM, we can mention several projects which are currently addressing the challenges of Climate change and Environment, Sustainable consumption and production patterns, Social inclusion, SMEs development, Renewable energy, etc.<sup>90</sup>

The **World Bank** has been playing also a central role in financially supporting employment, water and waste management issues, renewable energies projects and ICZM initiatives in the Mediterranean partner countries<sup>91</sup>. The World Bank and the UfM have already explored new opportunities of cooperation, including setting up joint agreements for promoting flagship projects under the "Middle East and North Africa Transition Fund", a fund created within the framework of the Deauville Partnership, launched by the G-8 to support democratic transitions in the Middle East and MENA countries. The **MENA Transition Fund** has already announced a call for proposals for its 2014 program. In particular, this fund seeks proposals for reform-focused technical assistance projects that support investment in sustainable growth, inclusive development and job creation, enhanced economic governance and competitiveness and integration in six transition countries, namely: Egypt, Jordan, Libya, Morocco, Tunisia, and Yemen. Technical assistance projects that leverage investment financing, and/or that pilot specific reforms or innovative investments, are particularly encouraged. This would enable people in the Middle East and North Africa to benefit from a broader atmosphere of change and stability and growth in the long run.

<sup>89</sup> Here we refer to European Commission's Regional Strategy Paper (2014-2020), the country and Regional Strategy Papers (CSPs/RSPs) and the National and Regional Indicative Programmes (NIPS/RIPs).

<sup>90</sup> Further information are available at: <http://ufmsecretariat.org/four-new-regional-projects-are-labelled-by-the-union-for-the-mediterranean/>

<sup>91</sup> Among relevant examples "The Labor Intensive Investment Project for Egypt (2012-2015)", the "World Bank - Tunisia Northern Tunis Wastewater Project (2010-2015)", the "Morocco Solid Waste Sector project DPL3 P127955", the project "Solid Waste Management OBA Pilot in West Bank (2013)", the "Jordan Amman Landfill Gas Recovery Project (2013)", The "Jordan Energy Efficiency project", the "Energy Efficiency Project for Tunisia", the "Egypt - Wind Power Development Project", the "Alexandria Coastal Zone Management Project (PFS : EG007)".



The **Euro-Mediterranean Regional and Local Assembly (ARLEM)**<sup>92</sup> has launched several initiatives and studies in different fields, such as water, renewable energy, urban development, SMEs, in order to facilitate cooperation between the Local and Regional Authorities (LRAs), building lasting and fruitful partnerships for the exchanges of good practices and know-how<sup>93</sup>. As mentioned in the last annual report<sup>94</sup> the ARLEM'S objectives and priorities for the 2012-2015 mandate are: promoting the territorialisation of the UfM's sectorial priorities, closing the territorial gap, boosting territorial development as a lever for growth and jobs in the regions and promoting the principle of subsidiarity and the institutional capacity building needed to manage structures for local public services and funds for cooperation. As regards synergies in the Euro-Mediterranean cooperation, ARLEM, for instance, has been developing lines of action and cooperation with the EMUNI University and the European Training Foundation (ETF), especially concerning job creation, training and the development of SMEs.

The Inter-Mediterranean Commission (IMC) deserves special attention in the context of the future of Euro-Mediterranean relations, which should also be taken into account in order to find out key elements explaining the coherence with the new Programme intervention strategy. In particular, the Political Declaration "*Towards a new governance for a more sustainable, cohesive and competitive Mediterranean*"<sup>95</sup> - adopted by the latest Political Bureau of this Commission held in Patras (Dytiki Ellada-Greece) on 13-14 March 2014 - contains policy recommendations and proposals with a focus on the Integrated Maritime Policy (IMP) and the "Blue growth" strategy<sup>96</sup>, and particularly on other key priorities for the Mediterranean, such as energy efficiency and renewable energy, water, transport, SMEs and youth policies.

The ENI CBC MED programme pays particular attention to the coherence and complementarities with the **EU programmes of 2014-2020** that can feed cross-border cooperation actions and benefit its activities and results. Synergies, complementarities and coordination activities between the ENI CBC MED Programme 2014-2020 and the EU thematic programmes (i.e. Horizon 2020<sup>97</sup>, COSME, LIFE +, ERASMUS PLUS, Creative Europe, etc.) and other European Territorial Cooperation Programmes (ETC) dealing with cross border and transnational and interregional cooperation (i.e. ETC MED 2014-2020, the Italy – Malta 2014 – 2020 Operational Programme, Interreg Europe, etc.) and other ENI Programmes (i.e. ENI CBC Italy-Tunisia 2014-2020) are envisaged on the different priorities axes and investment priorities (IPs) supported by these initiatives. In particular, the MA promotes a stronger cooperation with all these programmes in order to

<sup>92</sup> The key objective of ARLEM is to assist regional and local authorities in designing and promoting sustainable policies, so as to help them identify projects that can reduce the negative impacts of the current challenges facing their citizens.

<sup>93</sup> All these documents are available at the ARLEM website: [www.cor.europa.eu/arlem](http://www.cor.europa.eu/arlem)

<sup>94</sup> ARLEM annual report on "The territorial dimension of the Union for the Mediterranean (2012)".

<sup>95</sup> The political declaration is also aimed at promoting three macro-regional strategies, in particular one corresponding to the "Adriatic-Ionian" area, another for the "Western Mediterranean" and a third for the area of the "Eastern Mediterranean"; these might, over the long term, lead to the definition of an integrated supra-regional strategy for the whole basin. In this document, the IMC requests more systematic support from the EU for the start-up of the macro-regional strategies emerging in the Mediterranean area by means of transnational cooperation programmes such as the new MED programme, as well as via the future ENI CBC MED Programme 2014-2020.

<sup>96</sup> The strategy consists of three components: 1) specific integrated maritime policy measures; 2) sea basin strategies to ensure the most appropriate mix of measures to promote sustainable growth that take into account local climatic, oceanographic, economic, cultural and social factors; 3) targeted approach towards specific activities such as aquaculture, coastal tourism, marine biotechnology, ocean energy and seabed mining.

<sup>97</sup> In September 2012 the Commission adopted a Communication "Enhancing and focusing EU international cooperation in research and innovation: a strategic approach" (COM(2012) 497 final). The Communication sets out a new strategy for international cooperation in research and innovation, addressing the further development of the external dimension of the European Research Area (ERA). This documents states that, Horizon 2020 will remain open to participation from across the world. The countries covered by the European Neighbourhood policy are included in the Horizon 2020 proposals. For the Neighbourhood, this strategy will contribute to developing a 'Common Knowledge and Innovation Space', including improving the research and innovation competences of these countries. The list of Neighbourhood countries whose applicants are automatically eligible for funding under the Horizon 2020 budget is available at: [https://www.ffg.at/sites/default/files/downloads/h2020-hi-3cpart\\_en.pdf](https://www.ffg.at/sites/default/files/downloads/h2020-hi-3cpart_en.pdf)



improve the overall quality of projects, enable exchange of experiences and transfer of practices on specific topics.

Work Programmes (WPs) and Operational programme (OP) documents of EU programmes for Research and Innovation (Horizon 2020), for the Competitiveness of enterprises and SMEs (COSME) 2014-2020<sup>98</sup>, for the environment LIFE 2014-2020, for education, training, youth and sport (ERASMUS PLUS), for the cultural and creative sectors (Creative Europe 2014-2020) and for EU cohesion policy programmes (ETC MED 2014-2020 and Interreg Europe)<sup>99</sup> have been considered while drafting the analysis of the Medium Term Needs under each sector.

Aspects of the EU Cohesion policy, which is one of the key instruments to realise the Europe's long-term goals for growth and jobs ("Europe 2020"), have been taken into account when assessing the elements of coherence of the ENI CBC MED Programme with the content of this refocused policy and its related programmes. As mentioned in several documents of the EU<sup>100</sup>, investment under the **Cohesion policy** will continue in all EU regions but the level of support and the national contribution (co-financing rate) will be adapted to their level of development<sup>101</sup>. Eleven thematic priorities have been agreed. These are: 1) Strengthening research, technological development and innovation; 2) Enhancing access to, and use and quality of ICT; 3) Enhancing the competitiveness of SMEs; 4) Supporting the shift towards a low-carbon economy in all sectors; 5) Promoting climate change adaptation, risk prevention and management; 6) Preserving and protecting the environment and promoting resource efficiency; 7) Promoting sustainable transport and removing bottlenecks in key network infrastructures; 8) Promoting sustainable and quality employment and supporting labour mobility; 9) Promoting social inclusion, combating poverty and any discrimination; 10) Investing in education, training and vocational training for skills and lifelong learning; 11) Enhancing institutional capacity of public authorities and stakeholders and efficient public administration. Three funds, such as the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF), will support all abovementioned priorities as indicated in table 2.

Regarding the European Maritime and Fisheries Fund (EMFF)<sup>102</sup>, which is one of the five European Structural and Investment (ESI) Funds, the ENI CBC MED programme will support projects to be implemented in the Mediterranean coastal zones, which will focus on maritime spatial planning and integrated coastal zone management. Furthermore, the objectives of protection and restoration of marine biodiversity and ecosystems, sustainable coastal tourism, diversification of fishery activities, etc., constitute relevant issues for ENI CBC MED projects. Moreover, investments under the European Regional Development Fund (ERDF) – which is the main instrument to implement the *European Territorial cooperation goal* - will deal also with four key areas: 1) Innovation and research; 2) Information and communications technologies (ICT); 3) Support for small and medium sized businesses (SMEs); 4) The low-carbon economy. Among the EU programmes included in the European Territorial cooperation goal, there are ETC MED 2014 -2020 (addressing transnational cooperation) and Interreg Europe (addressing interregional cooperation), which are of particular importance for the present ENI CBC MED Programme

<sup>98</sup> As mentioned in the Programme web site, as far as the Southern neighbourhood countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia) are concerned, formally there is no expression of interest from any of these countries to join COSME. At the moment only three countries could legally join: Israel, Jordan and Morocco, however these have not expressed an interest yet. Algeria, Lebanon and Tunisia are in different phases of negotiating or approving the legal basis which would allow them to possibly join European Union programmes, including COSME. It is possible that this year or next, some of these countries would express their interest in joining COSME. Further details at: [http://ec.europa.eu/enterprise/initiatives/cosme/index\\_en.htm](http://ec.europa.eu/enterprise/initiatives/cosme/index_en.htm)

<sup>99</sup> As mentioned in paragraph 13 of the Regulation (EU) No 232/2014 coherence with the external dimensions of the Union's internal policies and instruments should also be ensured.

<sup>100</sup> Refocusing EU Cohesion Policy for Maximum Impact on Growth and Jobs: The Reform in 10 points, European Commission, MEMO, Brussels, 19 November 2013; Cohesion policy 2014-2020: Momentum builds, WINTER 2013, NO 48, Panorama Info regio.

<sup>101</sup> The level of development corresponds to following categories: less developed regions (GDP < 75 % of EU-27 average); transition regions (GDP 75 % to 90 % of EU-27 average); more developed regions (GDP > 90 % of EU-27 average).

<sup>102</sup> REGULATION (EU) No 508/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council.

because they involve a large number of EU regions and member states which are also eligible for the new Programme. The priority issues addressed in these programmes are indicated in table 3.

Among the initiatives and instruments characterizing the Mediterranean area, it is important to mention the **Development Cooperation Instrument** of the EU external policy for the 2014-2020<sup>103</sup> which will allocate 545 million euros to ENP partner countries (i.e. Middle East)<sup>104</sup> to support the implementation of activities in different fields of intervention. EU assistance to these countries is provided under Geographic programs with the objectives that are consistent with the Programme strategy, namely:

- Promoting inclusive growth and encouraging social cohesion and development, in particular creation of employment, social inclusion, decent work and equity and gender equality;
- Promoting sustainable economic reform and diversification, open and fair trade relations, the development of a regulated and sustainable social market economy, productive and sustainable investment in the main sectors (such as energy, with a focus on renewable energy);
- Promoting sustainable and equitable management of water resources as well as the protection of water resources;
- Promoting good neighbourly relations, regional cooperation, dialogue and integration, including with countries covered by the ENI by supporting integration efforts within the region, indicatively on economy, energy, water, etc.

The new ENI CBC MED Programme is coherent with the objectives of existing and future macro-regional strategies, as required by the ENI Regulation. As mentioned in the Regulation (EU) No 232/2014, the **Joint EU–Africa Strategy** is relevant for relations with the Mediterranean neighbours from North Africa. In particular, the 4th EU-Africa Summit which was held on 2-3 April 2014 in Brussels adopted a roadmap to frame EU-Africa relations for 2014-2017. The roadmap covers five key priorities and areas for joint actions<sup>105</sup>: 1) Peace and security; 2) Democracy, good governance and human rights; 3) Human development; 4) Sustainable and inclusive development and growth and continental integration; 5) Global and emerging issues. For each of these objectives, the roadmap details actions at interregional, continental or global levels which are expected to have a real impact on the people of both continents.

With reference to the third Priority area “Human development” the Programme strategy is coherent with the need of intervention resulting from this roadmap which focuses on the following strategic objective: Promote human capital development and knowledge and skills based societies and economies, amongst others by strengthening the links between education, training, science and innovation, and better manage mobility of people. EU-Africa cooperation on Science, Technology and Innovation (STI) is cross-cutting in nature, contributing to the attainment of all other socio-economic development objectives. The EU and Africa will work together towards reinforcing cooperation between research communities and the creation of joint academic research programmes, with a special focus on innovation and the productive sector including research infrastructures.

#### 4.2.2 Coherence and complementarities with new EU Programmes and other relevant initiatives

This section refers to the four selected Thematic Objectives (TOs) for ENI CBC MED Programme listing priority areas for cooperation with the relevant EU programmes of 2014-2020.

<sup>103</sup> REGULATION (EU) No 233/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 March 2014 establishing a financing instrument for development cooperation for the period 2014-2020.

<sup>104</sup> INDICATIVE FINANCIAL ALLOCATIONS FOR THE PERIOD 2014-2020 is reported in the Annex IV of the REGULATION (EU) No 233/2014.

<sup>105</sup> FOURTH EU-AFRICA SUMMIT 2-3 APRIL 2014, BRUSSELS, ROADMAP 2014-2017 ([http://www.consilium.europa.eu/uedocs/cms\\_Data/docs/pressdata/en/ec/142094.pdf](http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/142094.pdf))

All typologies of EU programmes for 2014-2020 (i.e. EU thematic programmes, European Territorial Cooperation programmes) include objectives and activities covering different aspects of the Programme strategy. Within the framework of these EU programmes, financial assistance will be given to support specific objectives and type of actions which present relevant synergies and complementarities with the selected four TOs and proposed priorities, as summarised for each Thematic Objective (TO) here below. It shall be noted that among the 95 ENPI CBC MED approved projects, 80 projects have specific objectives that show consistency with the four selected Thematic Objectives (TOs) under the new Programme. These 80 funded projects with a total ENPI contribution of € 165,391,742.35 gather more than 600 beneficiaries from 13 countries of the Mediterranean Basin into a cross border network that is expected to be further developed within the new Programme.

**Business and SMEs development:** Supporting entrepreneurs (i.e. access to markets) and ensure more favourable conditions for business creation and growth (i.e. HORIZON 2020, COSME<sup>106</sup>, Creative Europe); Establishing and further strengthening transnational innovation networks and clusters and supporting internationalisation; Increasing cooperation between research, SMEs and the public sector to stimulate innovation and entrepreneurship; Developing sustainable tourism across borders (e.g. business models) (ETC MED 2014-2020); Supporting SMEs in all stages of their life cycle to develop and achieve growth and engage in innovation, creating and boosting entrepreneurial spirit, etc.) (i.e. Interreg Europe).

**Support to education, research, technological development and innovation:** Encouraging the research and innovation cooperation between the Union and the Southern Mediterranean Neighbourhood (i.e. HORIZON 2020); Promoting cooperation and partnerships that have an impact on the modernisation and internationalisation of higher education institutions and systems in Partner Countries neighbouring the EU (i.e. ERASMUS PLUS); Increasing cooperation between research, SMEs and the public sector to stimulate innovation and entrepreneurship (ETC MED 2014-2020); Increasing commercialisation of R&D results, Strengthening the linkages between research and industry, etc.) (i.e. Interreg Europe).

**Promotion of social inclusion and fight against poverty:** Fostering cooperation with organisations abroad over longer periods and ensure mobility opportunities for young people and youth workers across the EU, and to/from Partner Countries neighbouring the EU (i.e. ERASMUS PLUS); Undertaking a thorough analysis of social innovation in agriculture, forestry and rural development, encompassing its complexity and various dimensions as well as its impact on unfolding the territorial capital in different regional contexts, with special attention to Mediterranean countries (i.e. HORIZON 2020), Expanding aid to youth entrepreneurship, also in partnership with the banking sectors, through two financial instruments, such as the Loan Guarantee Facility and the Equity Facility for Growth (i.e. COSME); Promoting Mediterranean innovation capacities of public and private actors to develop smart and sustainable growth, with special attention to blue and green growth, creative industries and social innovation that represent strong development and jobs potential in Mediterranean regions (i.e. ETC MED 2014-2020); Promoting

<sup>106</sup> The EU Regulation No 1287/2013 establishing a Programme for the Competitiveness of Enterprises and small and medium-sized enterprises (COSME) (2014 - 2020) refers to the "Small Business Act (SBA)", which was adopted in 2008 and updated in 2011 with a specific focus on helping small medium-sized enterprises (SMEs) cope with the financial crisis. The SBA calls on the Union and the Member States to support and encourage SMEs to benefit from the growth of markets outside the Union. It provides a comprehensive policy framework for SMEs and promotes entrepreneurship and SMEs competitiveness. According to the SBA, attention should be paid to all situations that entrepreneurs face, including start-up, growth, transfer, bankruptcy, etc. As mentioned in the joint communication by the European Commission and the High Representative of the EU for foreign affairs and security policy, dated 27 March 2014 and titled "*Neighbourhood at the Crossroads: Implementation of the European Neighbourhood Policy in 2013*", several ENP partner countries have adopted reference documents inspired by the SBA, to stimulate entrepreneurship and favourable business conditions to create growth and jobs. In the Southern Neighbourhood, Euro-Mediterranean industrial cooperation has long provided a framework for developing enterprise policy based on the Euro-Mediterranean Charter for Enterprise, which is currently being assessed and revised to also incorporate components of the Small Business Act for Europe (SBA).

entrepreneurship among specific target group at risk of discrimination (e.g. unemployed youth, elderly persons, women, long term unemployed and migrants) (i.e. Interreg Europe).

**Environmental protection and climate change adaptation and mitigation / Water management (WM):**

Development of water supply and sanitation technology, systems and tools, and/or methodologies to manage risks associated with water supply and sanitation and cross-boundary water management issues, or integrated water resources management systems for sustainable agriculture and food security, sustainable environment protection and economic growth, focused on the non-EU Mediterranean countries and Africa (i.e. HORIZON 2020); Support the application, development, testing and demonstration of integrated approaches for the implementation of plans and programmes pursuant to Union environmental policy and legislation concerning water (i.e. LIFE 2014-2020); Developing integrated strategies and tools for the management of conflicts for the use of natural resources (i.e. MED 2014-2020); Improving the governance of water treatment and recycling (i.e. Interreg Europe).

**Environmental protection and climate change adaptation and mitigation / Waste treatment and recycling:**

Developing innovative and sustainable strategies aimed at waste prevention and management in urban and peri-urban areas (i.e. HORIZON 2020); Developing integrated approaches for the implementation of waste plans and programmes (i.e. LIFE 2014-2020); Developing integrated strategies and tools to reduce the use of resources, enhancing their efficiency and decoupling economic growth from resources consumption, etc.) (i.e. ETC MED 2014-2020); Improving the governance of waste management, waste minimization, etc.) (i.e. Interreg Europe).

**Environmental protection and climate change adaptation and mitigation / Energy efficiency and renewable energy:**

Empowering public authorities to plan, finance and implement ambitious sustainable energy policies and plans (for instance under the Covenant of Mayors initiative<sup>107</sup>), on the basis of reliable data and analyses (i.e. HORIZON 2020); Enabling the Private Sector to contribute to the reduction of greenhouse gas emissions, and renewable energy and energy efficiency (i.e. LIFE 2014-2020); Elaborating services or tools to raise capacities of public authorities, owners, managers for better energy efficiency in public buildings; Elaborating feasibility studies, including legal and financial factors, for the use of renewable local energy sources for specific types territories, etc.) (i.e. ETC MED 2014-2020); Support actions and investments to increase levels of energy efficiency, including in public buildings and the housing sector, raising the share of energy from renewable sources in the overall energy mix, by encouraging and facilitating production and distribution of renewable) (i.e. Interreg Europe).

**Environmental protection and climate change adaptation and mitigation / ICZM:**

Strengthening the ecosystem based approach in the management of maritime activities and contribute to the objectives of the Marine Strategy Framework Directive (i.e. HORIZON 2020); Improving the conservation status of habitats and species, including marine habitats and species, and bird species, of Union interest (i.e. LIFE 2014-2020); Improving the implementation of strategies and tools to better take into account weather events, droughts, floods, land and coastal erosion in economic and tourism development strategies (i.e. ETC MED 2014-2020); Promoting regional practices for integrated coastal zone management in view of the new framework regulation on maritime spatial planning and ICZM (i.e. Interreg Europe).

The MA will promote continuous information of the EU Delegations of the participating countries to establish relations and links with initiatives and EU instruments, with the view of creating synergies between programmes and avoid duplication of funding and overlapping activities. In particular, the MA will play a coordination role in contact with all bodies (other Managing Authorities, Focal Points, etc.) in charge of the implementation of these programmes, to ensure that effective synergies between these initiatives are promoted.

<sup>107</sup> The Covenant of Mayors is an initiative of the European Commission launched in February 2008 to seek the commitment of Local and Regional Authorities (LRAs) in the fight against climate change.

Workshops, meetings, joint cooperation events, capitalisation and dissemination activities, and other information / awareness-raising actions concerning territorial development are planned along with the adoption of a thematic approach and the establishment of thematic working groups with a consultative and monitoring role.

The following three tables reflect the structure of the analysis developed in the previous paragraphs:

1. Exchange and collaboration of the new ENI CBC MED Programme with regional strategies and initiatives of other actors acting in the Mediterranean Basin;
2. Coherence of the programme intervention strategy (i.e. the selected TOs) with the strategies / initiatives of the Euro-Mediterranean Partnership (EMP), the structural funds of the EU Cohesion Policy for 2014-2020 and the instruments of the EU External Policy for 2014-2020;
3. Coherence and complementarity of the new JOP with the new EU Programmes of 2014-2020 and other relevant initiatives for the Mediterranean area.

+	Coherent
O	Indifferent
-	Inconsistent

	Thematic objectives and selected priorities						
	Business and SMEs development	Support to education, research, technological development and innovation	Promotion of social inclusion and fight against poverty	Environmental Protection, Climate Change Adaptation and Mitigation			
				Water Management	Waste treatment and recycling	Renewable energies (RE) and Energy Efficiency (EE)	Integrated Coastal Zone Management (ICZM)
UfM	+	+	+	+	+	+	+
World Bank (MENA Transition Fund)	+	O	+	+	+	+	+
ARLEM	+	+	+	+	+	+	+
CPMR (ICM)	+	O	+	+	+	+	+
MedPAN	O	O	O	O	O	O	+
Joint EU–Africa Strategy	+	+	+	+	+	+	O
Adrian – Ionian Strategy	+	+	+	+	+	+	+

**Tab. 4.1 - EXCHANGES with regional strategies and initiatives of other actors acting in the Mediterranean Basin**

		Thematic objectives and selected priorities							
		Business and SMEs development	Support to education, research, technological development and innovation	Promotion of social inclusion and fight against poverty	Environmental Protection, Climate Change Adaptation and Mitigation				
					Water Management	Waste treatment and recycling	Renewable energies (RE) and Energy Efficiency (EE)	Integrated Coastal Zone Management (ICZM)	
Cohesion Policy (Instruments and priorities by objective) <i>The Europe 2020 Strategy' for smart, sustainable and Inclusive growth.</i>	ERDF	Objective (Investment for growth and jobs goal)	+	+	+	+	+	+	+
		Objective (European territorial cooperation)	+	+	+	+	+	+	+
	ESF	Objective	0	+	+	0	0	0	0
	Cohesion Funds	Objective	0	0	0	+	+	+	+
	EMFF	Objective	0	0	0	0	0	0	+
Cooperation Development Instrument (Thematic programmes for ENP countries) (Domains)			+	0	+	+	0	+	0

Tab. 4.2 - COHERENCE with the strategies and instruments of the EU Cohesion Policy and of the EU External Policy for 2014-2020

		Thematic objectives and selected priorities							
		Business and SMEs development	Support to education, research, technological development and innovation	Promotion of social inclusion and fight against poverty	Environmental Protection, Climate Change Adaptation and Mitigation				
					Water Management	Waste treatment and recycling	Renewable energies (RE) and Energy Efficiency (EE)	Integrated Coastal Zone Management (ICZM)	
ETC MED 2014-2020		+	+	+	+	+	+	+	+
ETC Balkan MED		+	+	+	+	+	+	+	+
Interreg Europe		+	+	+	+	+	+	+	+
COSME (including Erasmus for Young Entrepreneurs)		+	0	+	0	0	0	0	0
Horizon 2020		+	+	+	+	+	+	+	+
Life 2014-2020		0	0	0	+	+	+	+	+
ERASMUS PLUS		0	+	+	0	0	0	0	0
CREATIVE EUROPE - MEDIA Sub-programme		+	0	0	0	0	0	0	0

Table 4.3 - COHERENCE and COMPLEMENTARITY with the content of new EU Programmes for the 2014-2020 period (i.e. axes and investment priorities)

The table above shows how the key elements to be addressed by the new ENI CBC MED Programme resulting from our analysis deal with issues on which strategies and ongoing programmes and other initiatives are also focusing, underlining the connections in terms of coherence, complementarity and opportunities of collaboration. The flexibility of the new Programme may help the MA to enhance the interaction between different cooperation instruments of the European Commission and to increase synergies between the projects. This flexibility is based on strengthening the capacity of the Programme's structures (i.e. the National Contact Points) to improve NCP regional and local insertion and seek ways to involve all actors (i.e. the project partners and other stakeholders) in this process of coordination with other EU instruments. The National Contact Points, indeed, will play a greater coordination role and will increase the potential impact of the project's activities and enable the development of synergic actions regarding the implementation of the new JOP.

## 4.3 Coherence with the Mediterranean Strategy for Sustainable Development

In this section the set of priorities identified by the ENI CBC MED Programme 2014-2020 is compared to the set of priority fields of actions identified by the Mediterranean Strategy for Sustainable Development, in order to verify the consistency of the contents and to exclude the presence of any conflicts.

The Mediterranean Strategy for Sustainable Development (MSSD) is a framework strategy, approved in 2005 following the Barcelona Conference held in 2001 among the 21 Mediterranean countries and the European Community, in order to guide national sustainable development strategies and to support a dynamic partnership between Mediterranean countries at different levels.

The main goal of the MSSD is to promote a coordinated and sustainable progress in the fields of human and economic development, as well as in environmental protection and cultural advancement, taking into account the threats and weaknesses of the region as well as its strengths and opportunities, with the aim to enhance peace, stability and prosperity and also trying to reduce the gap between developed and developing countries.

The Mediterranean Strategy for Sustainable Development pursues four major objectives:

- **OBJECTIVE 1:** Contribute to economic development while enhancing Mediterranean assets.
- **OBJECTIVE 2:** Reduce social disparities by implementing the millennium development goals and strengthen cultural identities.
- **OBJECTIVE 3:** Change unsustainable production and consumption patterns and ensure the sustainable management of natural resources.
- **OBJECTIVE 4:** Improve governance at local, national, regional levels.

The MSSD also specifically identifies seven priority fields of action and synergy:

1. **Better management of water resources and demand**, with the aim to:

- stabilize water demand through the reduction of water losses and the wasteful use of water (a reduction in demand in the North and controlled increases in the South and the East) and increase the added value per cubic metre of water used;
- promote the integrated management of watersheds, including surface and groundwater; and eco-systems, and foster depollution objectives;
- achieve the Millennium Development Goals concerning access to safe drinking water and sanitation;
- promote participation, partnership, active cooperation and solidarity for the sustainable management of water, at local and national level.

2. **Improved rational use of energy, increased renewable energy use and mitigation of and adaptation to climate change**, with the aim to:

- promote the rational use of energy;
- enhance the potential of renewable energy;
- control, stabilize or reduce, as appropriate, emissions of greenhouse gasses;
- mainstream measures for adaptation to climate change in national development plans;
- increase access to electricity in rural areas, where necessary.

**3. Sustainable mobility through appropriate transport management, with the aim to:**

- support regional and national initiatives to promote more competitive and sustainable transport systems and to improve Euro-Mediterranean transport linkages and networks;
- encourage more integrated transport systems which ensure a better complementarity of road, rail and sea transport, including a significant shift from road to sea and rail;
- improve the integration of transport policies into economic planning so as to achieve continued progress in “decoupling” the growth of motor transport from GDP growth;
- encourage the use of cleaner or less polluting fuels.

**4. Sustainable tourism as a leading economic sector, with the aim to:**

- reduce the adverse territorial and environmental impacts of tourism, especially in existing coastal tourist areas;
- promote sustainable tourism, which in turn reinforces social cohesion and cultural and economic development, enhances Mediterranean diversity and specificities and strengthens synergies with other economic sectors, especially agriculture;
- increase the added value of tourism for local communities and actors in developing countries;
- improve governance for sustainable tourism.

**5. Sustainable agriculture and rural development, with the aim to:**

- take into account the opportunities and risks associated with the process of trade liberalization at the Euro-Mediterranean level to consolidate the penetration of Mediterranean agricultural products on global markets by enhancing the comparative advantages of Mediterranean quality, including quality labels, organic agriculture and traditional products and to avoid social and environmental collapse;
- promote the technical and commercial adaptation of Mediterranean agriculture with a view to increasing its added value and exploiting in a sustainable manner the factors of production that are under the greatest threat, namely water and soil;
- ensure the future of rural communities and reduce poverty by providing rural infrastructure and basic services, diversifying the rural economy and improving local governance;
- reduce the irreversible loss of agricultural land and biodiversity, prevent the degradation of the landscape and improve the adaptation of agriculture to climate change.

**6. Sustainable urban development, with the aim to:**

- promote a sustainable urban economy and approaches to development planning which anticipate the forecast growth in the urban population in the coming decades;
- integrate into economic and spatial planning the exceptional cultural, historical and landscape assets of Mediterranean cities;
- improve the quality of urban life by expanding green areas and by reducing negative environmental factors (air pollution and waste generation), as well as social disparities and inequalities in access to services, particularly in southern and eastern Mediterranean cities;
- improve urban governance while strengthening solidarity between Mediterranean cities.

**7. Sustainable management of the sea, coastal areas and marine resources, with the aim to:**

- improve regional cooperation and promote the implementation of regional programmes of action with adequate means.



- promote the balanced and integrated management and development of coastal zones. Guarantee unhindered access to the coast for everyone. Preserve, enhance or restore the coastal heritage. Avoid linear and continuous urbanization. Reduce the vulnerability of sensitive areas to natural risks;
- prevent and combat marine pollution from ships by achieving the goals set out in the Regional Strategy for Prevention of and Response to Marine Pollution from Ships, which is currently being finalized. Eliminate operational pollution from ships by 2025;
- prevent and reduce land-based pollution by achieving the goals set out in the Strategic Action Programme to address Land-based Sources of Pollution, adopted in 1997. Halt the loss of marine and coastal biodiversity by 2010 in EU Member States and reduce it substantially in other countries, in accordance with international and European commitments;
- ensure the development of fishing in the Mediterranean towards an ecosystem approach and restore the stocks as far as possible by 2015, in accordance with the commitment of the Johannesburg World Summit on Sustainable Development. Promote sustainable aquaculture techniques that minimize their impact on the environment and conflicts with other users of the coast.

The matrix below shows a comparison between the 11 priorities of the ENI CBC MED Programme 2014-2020 and the 7 priority fields of action of the Mediterranean Strategy for Sustainable Development, to check the consistency between their contents and the absence of any conflict.

<b>+</b>	Coherent	The Programme priority present a strong coherence with the selected MSSD priority field of action
<b>O</b>	Indifferent	The Programme priority is not of significance for the selected MSSD priority field of action
<b>-</b>	Inconsistent	The Programme priority present an inconsistency with the selected MSSD priority field of action



2014 - 2020  
Towards the new  
ENI CBC Med Programme  
Vers le nouveau  
Programme IEV CT Med  
نحو برنامج ENI CBC Med جديد



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		ENI CBC MED PROGRAMME 2014-2020						
		TO.1 BUSINESS AND SME DEVELOPMENT			TO.2 SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION		TO.3 PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST THE POVERTY	
		1.1 Support innovative start-up and recently established enterprises	1.2 Strengthen and support networks, clusters, consortia and value-chains	1.3 Encourage sustainable tourism initiatives and actions	2.1 Support technological transfer and commercialisation of research results	2.2 Support SMEs in accessing research and innovation	3.1 Provide young people especially those belonging to the NEEETS and women, with marketable skills	3.2 Support social and solidarity economic actors
MEDETERRENEAN STRATEGY FOR SUSTAINABLE DEVELOPMENT	1. Better management of water resources and demand	O	+	O	+	+	O	O
	2. Improved rational use of energy, increased renewable energy use and mitigation of and adaptation to climate change	O	+	O	+	+	O	O
	3. Sustainable mobility through appropriate transport management	O	O	O	+	+	O	O
	4. Sustainable tourism as a leading economic sector	O	+	+	+	+	O	O
	5. Sustainable agriculture and rural development	O	+	+	+	+	O	O
	6. Sustainable urban development	O	+	O	+	+	O	O
	7. Sustainable management of the sea, coastal areas and marine resources	O	O	O	+	+	O	O



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		ENI CBC MED PROGRAMME 2014-2020			
		TO.4 ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADOPTATION AND MITIGATION			
		4.1 Support innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply	4.2 Reduce municipal waste generation and promote source separated collection and the optimal exploitation of its organic component	4.3 Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings	4.4 Incorporate the ecosystem-based management approach to ICZM into local development planning
MEDETERREAN STRATEGY FOR SUSTAINABLE DEVELOPMENT	1. Better management of water resources and demand	+	0	0	0
	2. Improved rational use of energy, increased renewable energy use and mitigation of and adaptation to climate change	0	0	+	0
	3. Sustainable mobility through appropriate transport management	0	0	0	0
	4. Sustainable tourism as a leading economic sector	0	0	0	0
	5. Sustainable agriculture and rural development	+	0	0	0
	6. Sustainable urban development	+	+	+	0
	7. Sustainable management of the sea, coastal areas and marine resources	0	0	0	+

No inconsistency was found between the Programme priorities and MSSD priority fields of action, in fact all expected results of Programme priorities are in line with the respective objectives described for each priority field of the MSSD.

In particular for the Programme priorities 1.1, 3.1 and 3.2 it was not found a close adherence with one or more specific MSSD. However, their main goals, aiming to support on the one hand the Mediterranean business with particular reference to start-up and recently established enterprises, and on the other hand to promote social inclusion, are both fundamental contents of the first two major MSSD objectives previously mentioned, aiming to contribute to economic development and to reduce social disparities.

## 4.4 Continuity with Programme 2007-2013

The experience of the implementation of the previous ENPI CBC MED Programme 2007-2013, gave several suggestions about the strategic framework to use in the new Programme in order to encourage existing or potential synergies among Mediterranean Partner Countries.

For this purpose in this section it is synthesized the structure of the previous Programme and it is briefly reported the result of its implementation and the main critical issues and good practices identified.

**ENPI CBC MED Programme 2007-2013** was structured in 4 main priorities and 10 measures. For each measure, the Programme give a brief description and lists local actors and potential beneficiaries.

### Priority 1: Promotion of socio-economic development and enhancement of territories

#### *Measure 1.1. Support to innovation and research in the process of local development of the Mediterranean Sea Basin countries*

The measure aims to support the competitive development of territories through the promotion of research and innovation, also encouraging the cooperation among companies, public organisations, research institutions and SME. The final goal is to strengthen and modernize the local economic system and diversify the production of goods and services, with particular reference to those sectors having a major relevance in the Mediterranean Basin Countries (e.g. marine sciences; agro-food technologies; technologies for protection, maintenance and optimization of historical and archaeological resources; advanced management systems for the sustainable production in the forest sector).

#### *Measure 1.2. Strengthening economic clusters creating synergies among potentials of the Mediterranean Sea Basin countries*

The measure aims to strengthen the cross-border partnership between SMEs and SMEs clusters and the integration of productive chains, identifying priority sectors with a strong Mediterranean character, just as agriculture, fishery, handicrafts and sustainable tourism based on cultural and natural specificities.

#### *Measure 1.3 Strengthening the national strategies of territorial planning by integrating the different levels, and promotion of balanced and sustainable socio-economic development*

The measure aims to support territorial development strategies conjugating economic development with cohesion, equity and sustainability, in order to produce a medium and long term impact on the socio-economic development of territories. The goal is to promote exchanges among countries, transfer of experiences and good practices to respond to common territorial issues.

### Priority 2: Promotion of environmental sustainability at the basin level

#### *Measure 2.1 Prevention and reduction of risk factors for the environment and enhancement of natural common heritage*

The measure aims to reduce and prevent environmental risks and degradation affecting the Mediterranean basin originated from human activities, geographic specificities of the territories and demographic trends, in order to preserve and enhance the natural heritage and landscapes. Primary areas of intervention are: fight against land desertification and coastal erosion; prevention of natural risks; water cycle management and fighting against sea and river pollution; reduction of the effects of different sources of pollution at the level of urban, industrial, and agricultural areas; waste

management and recycling; protection and sustainable enhancement of natural, land, and marine resources for economic and tourism purposes; adoption of sustainable fishery techniques; increase ecosystem resilience to climate change; adaptation to the effects of climate change.

*Measure 2.2 Promotion of renewable energy use and improvement of energy efficiency contributing to addressing, among other challenges, climate change*

The measure aims to reduce pollution sources and to safeguard natural heritage through the promotion of energy efficiency and the production and consumption of renewable energies. These activities may involve a contribution to the reduction of greenhouse effect emissions following Kyoto commitments, but also may open up an economic opportunity supported as a cross-border activity.

### Priority 3: Promotion of better conditions and modalities for ensuring the mobility of persons, goods and capitals

*Measure 3.1 Support to people flows among territories as a means of cultural, social and economic enrichment*

The measure aims to promote cross-border activities such as impact analysis, communication, information and awareness rising about legal and illegal migration aimed at different target groups, including initiatives directed to promote exchanges of public and private good practices supporting social and economic integration of migrants.

*Measure 3.2 Improvement of conditions and modalities of circulation of goods and capitals among the territories*

The measure aims to create a cooperation area characterized to shared procedures and mechanisms for the circulation of goods and capitals, increasing efficiency of cross-border trade at basin level mainly through the strengthening of connections and competitiveness of transports, and the improvement of technical and administrative operations of maritime transports using new information and communication technologies.

### Priority 4: Promotion of cultural dialogue and local governance

*Measure 4.1 Support to mobility, exchanges, training and professionalism of young people*

The measure aims to contribute to enabling young people, with special attention to young women, to improve training standards responding to the demand of productive sectors, to promote entrepreneurship and certification of skills and encourage their inclusion of in the euro Mediterranean labour market. Young people are considered to be fundamental actors for the creation of an area of flourishing exchange and cooperation with a long-term perspective.

*Measure 4.2 Support to the artistic creativity in all its expressions to encourage dialogue among communities*

The measure aims to promote cross-border initiatives able to support cultural and artistic common sectors in different expressions (e.g. artistic and industrial creation, fashion and design, architecture, literature, cinema and media) through exchanges among artists and cultural operators, as a means of encouraging interactions among cultures based on dialogue among territories.

*Measure 4.3 Improvement of the governance processes at local level*

The measure aims to improve cooperation and best practices exchanges activities supporting civil society, local communities and local institutions in the sector of administrative reform and good governance in accordance with national legislations.

### Results and critical issues of 2007-2013 Programme

The results of the 2007-2013 Programme, as of April 29, 2014, are reported in Table 4.4 and Table 4.5. Table 4 in particular shows the list of the 95 ENPI CBC MED projects awarded (75 standard projects and 19 strategic projects) during the three calls for proposals, whose objectives are consistent with the four selected Thematic Objectives (TOs) under the new JOP. The increasing number of applications received (increased from a total of 599 applications in 2009 to 1095 applications in 2013), proved the strong interest for the Programme contents, but also enlightened the difficulty to manage the administrative burdens and to satisfy such high expectations (less than 5% of proposals on average resulted successful).

In the table are also specified for each Thematic Objective: the number of projects financed, the ENPI contribution and the total number of actors involved.

Thematic Objectives (TO)	Number of projects	ENPI contribution	Number of actors
Business and SMEs development	15	€ 28.899.755,24	111
Tourism	14	€ 32.652.852,65	134
Support to education, research, technological development and innovation	15	€ 36.384.918,25	119
Promotion of social inclusion and fight against poverty	13	€ 18.353.197,64	93
Water management	8	€ 15.370.470,41	50
Waste treatment	8	€ 20.141.844,38	74
Renewable energy efficiency	10	€ 29.268.465,55	93
Integrated coastal zone management (ICZM)	12	€ 21.546.017,62	85

**Tabl. 4. 4 ENPI CBC MED projects whose objectives are consistent with the four selected Thematic Objectives under the new JOP**

Table 4.5 shows other topics covered by the ENPI CBC MED projects, updated on 18 April 2014, also identifying number of projects, ENPI contribution and number of actors involved.

Thematic Objectives	Number of projects	ENPI contribution	Number of actors
Economic sustainable growth	2	€ 2.441.912,68	11
Local governance, spatial planning and rural development	6	€ 9.063.895,62	47
Mobility and traffic flow (transport)	4	€ 4.528.610,98	23
Valorisation of cultural heritage	6	€ 4.583.656,83	39

**Tab. 4.5 Other topics covered by the ENPI CBC MED projects**

Other important results are related to the considerable participation of different kind of local actors, such as local authorities, academia and civil society organizations, and the level of cooperation at project level established between a large number of institutions and organisations based in the two shores of the Mediterranean. Furthermore, it was observed a balanced distribution of funds, as a minimum of 50% of overall project's budget was allocated to activities implemented in Mediterranean Partner Countries.

### Comparison between 2007-2013 Programme and 2014-2020 Programme objectives

As in the previous Programme, also in this case it was considered useful to formulate wide objectives, to ensure the flexibility required for a multi-annual and multi-Country programme, trying this time to specify targeted investment priorities in order to better orient the proposals.

For this purpose, the **ENI CBC MED Programme 2014-2020** is structured in 2 overarching objectives, 4 thematic objectives and 11 priorities. For each priority, expected results and an indicative list of outputs are specified, as well as their indicators. This more focused approach is expected to increase efficiency while reducing the currently high levels of failed applications for funding.

The new Programme also aims to invest on building the capacity to support specifically southern shores potential applicants, to better focus on partnership quality and to simplify the application and management process, in order to increase the participation of MPC Applicants allowing a greater and more coordinated effort in the governance challenges of involving multiple stakeholders.

The two tables below show the strategy framework respectively of the 2007-2013 Programme and 2014-2020 Programme, pointing out with the same color objectives/measures/priorities with similar purposes.

<b>ENPI CBC MED Programme 2007-2013</b>	
<b>PRIORITIES</b>	<b>MEASURES</b>
<b>1. PROMOTION OF SOCIO-ECONOMIC DEVELOPMENT AND ENHANCEMENT OF TERRITORIES</b>	1.1 Support to innovation and research in the process of local development of the Mediterranean Sea Basin countries
	1.2 Strengthening economic clusters creating synergies among potentials of the Mediterranean Sea Basin countries
	1.3 Strengthening the national strategies of territorial planning by integrating the different levels, and promotion of balanced and sustainable socio-economic development
<b>2. PROMOTION OF ENVIRONMENTAL SUSTAINABILITY AT THE BASIN LEVEL</b>	2.1 Prevention and reduction of risk factors for the environment and enhancement of natural common heritage
	2.2 Promotion of renewable energies use and improvement of energy efficiency contributing to addressing, among other challenges, climate change
<b>3. PROMOTION OF BETTER CONDITIONS AND MODALITIES FOR ENSURING THE MOBILITY OF PERSONS, GOODS AND CAPITALS</b>	3.1 Support to people flows among territories as a means of cultural, social and economic enrichment
	3.2 Improvement of conditions and modalities of circulation of goods and capitals among the territories
<b>4. PROMOTION OF CULTURAL DIALOGUE AND LOCAL GOVERNANCE</b>	4.1 Support to mobility, exchanges, training and professionalism of young people
	4.2 Support to the artistic creativity in all its expressions to encourage dialogue among communities
	4.3 Improvement of governance processes at local level

*Table 4.6 - Priorities and measures of ENPI CBC MED Programme 2007-2013*

ENI CBC MED Programme 2014-2020			
OVERARCHING OBJECTIVES	THEMATIC OBJECTIVES	PRIORITIES	
OO 1. PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT	TO 1.A BUSINESS AND SME DEVELOPMENT	1.1 Support innovative start-up and recently established enterprises	
		1.2 Strengthen and support networks, clusters, consortia and value-chains	
		1.3 Encourage sustainable tourism initiatives and actions	
	TO 1.B SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION	2.1 Support technological transfer and commercialisation of research results	
		2.2 Support SMEs in accessing research and innovation	
	TO 1.C PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST THE POVERTY	3.1 Provide young people especially those belonging to the NEEETS and women, with marketable skills	
		3.2 Support social and solidarity economic actors	
	OO 2. ADDRESS COMMON CHALLENGES IN ENVIRONMENT	TO 2.A ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION	4.1 Support innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply
			4.2 Reduce municipal waste generation and promote source separated collection and the optimal exploitation of its organic component
4.3 Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings			
4.4 Incorporate the ecosystem-based management approach to ICZM into local development planning			

**Table 4.7 Overarching objectives, thematic objectives and priorities of ENI CBC MED Programme 2014-2020**

A comparison between the objectives of the two Programmes highlights that environmental, social and economic challenges still the main focuses of the strategy, aiming to preserve the Mediterranean ecosystem and valorize the territories, to revitalize the economy through innovation, research and clustering, and to support the creation of new jobs and social inclusion.

As it can be noticed, many Priorities of the new Programme are in line with the Measures of the previous one, but new priorities in some cases try to specify targeted investment in order to better orient the proposals. For example:

- Measure 2.2 aims to promote renewable energies use and improve energy efficiency contributing to address climate change, while Priority 4.3 focuses on the innovative energy rehabilitations of public buildings.
- Measure 1.1 deals with supporting innovation and research in the process of local development, while Priority 2.2 focuses more on SMEs access to innovation and research.
- Measure 2.1 aims to prevent and reduce risk factors for the environment, while Priorities 4.1, 4.2 and 4.4 specifies this need into 3 fields: water supply, waste generation and ICZM.

## Chapter 5



## Screening and possible effects

## 5.1 Screening of the potential environmental effects of the Programme

This chapter focuses on the identification of those Programme's priorities having potential positive or negative interferences with the environment, according to the sustainable development principles. The box below shows the criteria for determining the likely significance of the effects of plans and programmes, contained in Annex II of European Directive 2001/42/EC (the same criteria are also reported on Annex I to the second part of D. Lgs 152/2006 and Annex C1 of the 2012 DGR 33/34 of Autonomous Region of Sardinia).

### ANNEX II

#### Criteria for determining the likely significance of effects referred to in Article 3(5):

1. The characteristics of plans and programmes, having regard, in particular, to:
  - the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources,
  - the degree to which the plan or programme influences other plans and programmes including those in a hierarchy,
  - the relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development,
  - environmental problems relevant to the plan or programme,
  - the relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste-management or water protection).
2. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to:
  - the probability, duration, frequency and reversibility of the effects,
  - the cumulative nature of the effects,
  - the transboundary nature of the effects,
  - the risks to human health or the environment (e.g. due to accidents),
  - the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected),
  - the value and vulnerability of the area likely to be affected due to:
    - special natural characteristics or cultural heritage,
    - exceeded environmental quality standards or limit values,
    - intensive land-use,
  - the effects on areas or landscapes which have a recognised national, Community or international protection status.

With reference to the first set of criteria defined by the European Directive 2001/42/EC, a preliminary assessment is reported in the table below.

Criteria for determining the likely significance of effects	
Criteria for determining the likely significance of effects	Preliminary assessment
The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources	The programme defines wide and strategic objectives and priorities, for each one allocating financing, to be pursued through the implementation of individual projects proposed by the Partner Countries.
The degree to which the plan or programme influences other plans and programmes including those in a hierarchy	The programme does not influence other plans or programmes directly. However, priority 4.4 focuses on the incorporation of the Ecosystem based management approach to ICZM into local development planning also using a participatory approach, contributing to introduce a more sustainable and participatory management of the costs.
The relevance of the plan or programme for the integration of environmental considerations in particular with a view to promoting sustainable development	The Programme is consistent with the Mediterranean Strategy for Sustainable Development (MSSD), in fact all the Programme's priorities aim to promote progress towards sustainability in the economic, social and environmental areas.
Environmental problems relevant to the plan or programme	The Programme defines wide priorities, so it is not possible to define specific environmental problems at this stage of definition, an integration of the environmental considerations will be carried out later in the process (see the five levels of environmental attention in Chapter 6).
The relevance of the plan or programme for the implementation of Community legislation on the environment (e.g. plans and programmes linked to waste-management or water protection)	The Programme provides financing in the field of environmental protection, climate change adaptation and mitigation with particular reference to: water supply, waste management, renewable energy and ICZM.

With reference to the second set of criteria defined by the Directive, since the ENI CBC MED Programme 2014-2020 defines wide and strategic objectives and priorities for each one allocating financing, to be pursued through the implementation of individual projects proposed by the Partner Countries, it is not possible at this stage to give a precise definition of:

- the characteristics of the potential environmental effects deriving by the specific intervention typologies (as defined by Annex II of the Directive 2001/42/EC: probability, duration, frequency and reversibility of impacts; cumulative impacts; cross-border nature of the impacts; risks to human health or the environment; magnitude and spatial extent of impacts etc.);
- the specific environmental characteristics of the areas affected by the projects.

In fact, both these aspects will be known only in the next phase of Countries' participation to the call. All the Programme's priorities, as outlined in Chapter 4, pursue the objectives of the Mediterranean Strategy for Sustainable Development (MSSD), aiming to promote progress towards sustainability in the economic, social and environmental areas and in the field of governance, with the aim to create an area of shared prosperity. Despite the fact that all these priorities are expected to have beneficial effects, it is

possible that some actions, due to their technological characteristics, or because of the environmental characteristics of the affected areas, may produce some negative impacts.

Therefore, in this context it is developed a preliminary and merely indicative screening of the potential environmental effects of the Programme implementation.

The chapter is organized as follows, for each priority, the possible types of interventions envisaged are assessed against 5 macro-environmental dimensions:

- **Water:** intended as the consumption of freshwater for domestic, agricultural or industrial use
- **Air emissions and climate change,** referring to the emissions of pollutants and GHG in the atmosphere
- **Waste management,** referred to the production, collection, management and reuse of domestic and industrial waste
- **Energy,** referred to both generation and consumptions/savings
- **Ecosystem and landscapes,** referring in a broad sense to the status of habitats and species, the functionality of the ecosystems, their capacity to continue to deliver ecosystem services to human being. Landscape is intended not only in a strictly perceptive dimension but, as defined by the European Landscape Convention as, area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.

### 5.1.1 Screening of the potential interactions with the environment

The following tables highlight the potential interactions between the environment and the indicative types of actions of the Programme identified for each priority.

○	no significant foreseeable effects or positive interaction
✓	potential positive effects
?	uncertain interaction
■	potential negative interactions

Each table is accompanied by a brief description of the potential effects, pointing out to the possible elements of concern given the current level of definition of the interventions typologies. In several case, the presence of potential environmental impacts cannot be assessed at this stage because the exact typology of actions ensuing from the priority is not known at this stage. Therefore, in section 5.2, specific action that, in principle, could be financed under each priority and that can determine negative effects are pointed out.

Specific environmental criteria are then identified representing the main issues of concern with respect to the potential presence of negative impacts. Such aspects will then have to be taken into account both from the side of proponents and by the Managing Authority to determine the environmental implication of the presented proposed, through the procedure of successive level of screening described in chapter 6.



Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT							
Thematic Objective: 1.A BUSINESS AND SMES DEVELOPMENT							
Priority 1.1: Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialization where applicable							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Innovative start-up enterprises having a cross border dimension managed by youths (graduates or equivalent between 24 and 35 years old) and/or women (all ages) sustainably grow their share in traditional and non-traditional sectors	Training, mentorship, tutorship provided to young entrepreneurs (24-35 years old) and women (all ages) through youth-to-youth and women-to-women support and mentor networks. Investment schemes with risk capital dedicated and accessible to the start-ups. Local hubs and accelerators created to train/coach and host talents in the creative sectors.	<ul style="list-style-type: none"> <li>Strengthening the ties between academia and business sectors through the facilitation of the transfer of scientific and technological knowledge, the development of pilot initiatives, trade facilitation, etc.</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Supporting training for networking and participation of young and female entrepreneurs in business-development initiatives</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Promoting pilot initiatives for the diffusion of the entrepreneurial spirit among young and women, with specific focus on sustainable, environment-friendly and innovative actions</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Promoting the exchange of knowledge, know-how and competences as well as public-private partnerships business opportunities and market expansion</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Strengthening the offer of tertiary and post-tertiary education and training to provide qualified human resources to local businesses</li> </ul>	○	○	○	○	○
Increased share of youths/women staff in managerial positions in companies recently established (since 2011) that access	Specialized supporting services provided, such as in R&D services, sector specific product development services, scientific partner search etc that address especially needs of	<ul style="list-style-type: none"> <li>Promoting incentives for trade and exchange of knowledge, know-how and competences as well as business opportunities and market expansion</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Supporting coaching on trade and business relations through the development of networks of public and private institutions</li> </ul>	○	○	○	○	○



Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.1: <b>Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialization where applicable</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
and develop innovative markets domestically and/or in other MED countries	young/women staff in recently established enterprises. New products/services/tools for enterprises to foster distribution, retail and access of products to new customers. Open Data initiatives / websites or learning platforms launched/developed.	<ul style="list-style-type: none"> <li>Facilitating the development and implementation of joint strategies for the diffusion and promotion of traditional and non-traditional Mediterranean products and services</li> </ul>	?	?	?	?	?
		<ul style="list-style-type: none"> <li>Developing strategies and initiatives for the enhancement of mobility schemes for the competitiveness of traditional Mediterranean sectors (handicraft industry, agro-food products, sustainable tourism, etc.)</li> </ul>	○	○	○	○	○
Increased capacity of public authorities to facilitate access to and protect Intellectual Property Rights (IPR) and commercial contracts of youths	Bilingual (Arabic/English) and (Arabic/French) simple guidebook for business development. IPR awareness campaigns designed and implemented. Existing "one-stop-shop" service providers specialized	<ul style="list-style-type: none"> <li>Facilitating the development and implementation of joint strategies for the access and protection of IPR and commercial contracts, notably involving public-private partnerships</li> </ul>	○	○	○	○	○
		<ul style="list-style-type: none"> <li>Promoting the access of local businesses and start-ups to information on IPR and IPR-related matters</li> </ul>	○	○	○	○	○



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## Strategic Environmental Assessment - screening procedure

Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.1: <b>Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialization where applicable</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
and women entrepreneurs	in support services for start-ups and recently established firms (e.g. for technology transfer and proof of concept projects) reinforced or newly established.	<ul style="list-style-type: none"> <li>Exchanging experiences, knowledge and know-how for the development of legal basis and procedures for the improvement and internationalisation of national IPR laws and regulations</li> </ul>	○	○	○	○	○



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**Priority 1.1: Support innovative start-up and recently established enterprises, with a particular focus on young and women entrepreneurs and facilitate the protection of their Intellectual Property Rights and commercialization where applicable**

Most actions typologies of this priority have no foreseeable negative interactions with the environment, being non material actions as training, knowledge sharing, women empowerment, coaching. Such actions pay special attention to woman and youth, to improve their access to financing, to facilitate their access to Intellectual Property Rights (IPRs), to dedicated training, coaching and mentoring programs to strengthen business and managerial knowledge.

Overall, this priority is therefore expected to improve the Mediterranean business system through the creation of new economic opportunities and jobs. However, the action aimed at facilitating the development and implementation of joint strategies for the diffusion and promotion of traditional and non-traditional Mediterranean products and services deserves a further look. At this level of definition, potential environmental effects cannot be entirely excluded, depending of course on the type of products and services that will be diffused. An increase in both the production and diffusion of products/services potentially entails an increase on the pressures of resources used to manufacture such products and/or to deliver the service and transport them to the final markets. The calls for projects shall therefore pay attention to such aspects either by incentivising the diffusion of less-impacting products/services or by introducing specific criteria to minimise potential impacts.



Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.2: <b>Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Increased number of MSMEs participating in Euro-Mediterranean enterprise alliances	Quality consultancy services provided to SMEs (e.g. marketing, logistic advices, internationalization, ICT applications, governance, clustering, etc.).	Networking actions through international business events and initiatives organized aiming at enlarging activities in new markets by enterprises involved in CBC-MED projects	○	○	○	○	○
		Facilitation of business exchanges and networking also by approaching legislations and international procedures in key Mediterranean economic sectors	○	○	○	○	○
	International business events / initiatives aiming at enlarging activities to new markets of enterprises involved in CBC-MED projects.	?	?	?	?	?	
	New joint products / brands developed in key sectors or locations, that provide added value.	Strengthening the provision of joint consultancy services for Mediterranean businesses (e.g. marketing, logistic advices, internationalization, ICT applications, governance, clustering, etc.)	○	○	○	○	○
Cross-border-enterprise alliances empowered by the support from	Public Private Partnerships (PPPs) between public actors and enterprises involved in CBC-MED projects formally established during project	Creation/Strengthening of new/existing public-private partnerships, alliances and of the networking among Mediterranean business initiatives to promote innovation, investments and commercial schemes	○	○	○	○	○



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## Strategic Environmental Assessment - screening procedure

Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.2: <b>Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
and cooperation with public authorities	implementation and operating beyond project closure. Trainings provided to and joint pilot initiatives undertaken by business actors, civil servants, responsible public authorities and relevant stakeholders at regional level on the adoption of PPP models. Effective alliances set-up involving stakeholders, enterprises, public sector and non-profit organisations to promote cross-border economic activity	Training of entrepreneurs and public officers on the role and usefulness of public-private partnerships for business development and sustainable growth	○	○	○	○	○
		Organisation of campaigns/events (e.g. global fora, seminars, platforms etc.) where public sector and PPP practitioners exchange knowledge to support value chains and their economic activities	○	○	○	○	○
		Fostering of Mediterranean cross-border trade relations via pilot projects having a comprehensive approach to local/regional development	?	?	?	?	?

**Priority 1.2: Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)**

This priority aims to promote cross-border enterprise partnerships, including Public-Private Partnership (PPPs), to support traditional and non-traditional sectors, providing support that may vary from business consultancy services to training/coaching services.

This priority is expected to have significant positive effects for the economic sector, by giving support to the creation of networks aiming to consolidate “an area of shared prosperity” in the Mediterranean Basin. Beneficial effects could also concern the development of the clean technology and the renewable energy sectors, which provide substantial benefits in terms of environmental and human health.

However, similar considerations as those made in relation to the previous priority apply also in this case as regards the development of pilot and demonstrative products and/or services providing added-value to the target area/group. Again, at this stage of definition it is not possible to know exactly which kind of pilot products/services will be financed. Consequently, it is not possible to exclude any potential environmental impacts, depending on the characteristics of the product/service. During the elaboration of project calls, specific selection criteria and/or eligibility rules shall be envisaged to minimise the risk of environmental impacts, e.g. by giving priority to new products/services that clearly demonstrate an improvement as regards the use of resources or decrease in emission of pollutants compared to current ones.

The same argument can be applied to the actions aimed at fostering cross-border trade relations via pilot projects having a comprehensive approach to local/regional development. Although in very general terms a “comprehensive approach to local/regional development” shall entail also the consideration of environmental aspects, the specific impacts ensuing from the implementation of such actions can greatly vary. Again, specific environmental criteria shall be put in place when elaborating the related calls for proposals.



Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.3: <b>Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Increased attractiveness of less known touristic destinations	Quality Support services (technical and financial assistance) provided to Local communities, SMEs, tour operators, protected area managers, and other relevant stakeholders for the different types of tourism (i.e. eco-tourism, adventure tourism, medical tourism, wine and food tourism, historic, cultural and religious tourism, etc.).	Joint definition of strategies and promotional initiatives for sustainable tourism in the Mediterranean (joint development of new products or trans-Mediterranean touristic services/routes, exploitation of new markets, etc.)	?	?	?	?	?
		Increasing the competitiveness of MSMEs operating in the touristic sector in less popular destinations via networking, exchange of best practices, know-how, promotion of alternative forms of tourism (eco-tourism, adventure tourism, medical tourism, wine and food tourism, historic, cultural and religious tourism, etc.)	?	?	?	?	?
Increased diversification of tourism offer through the promotion of local and territorial assets / drivers in off season periods	Increased accessibility and visibility as well as improved environment of less-developed touristic areas.  Diversified products/tools created to address selective demand in the off- season.	Training of touristic operators and other groups of relevant stakeholders (e.g. farm owners, tourist site managers, staff, etc.) on alternative forms of tourism (specific niches having cross-border dimensions)	○	○	○	○	○
		Sustainable practices promoted into planning and decision making processes and day to day operations of national, regional and local governments, as well as of the tourism industry.	Joint definition of commercial strategies and promotional initiatives for sustainable and niche tourism in the Mediterranean (joint development of new products or trans-Mediterranean touristic routes, exploitation of new markets, etc.)	?	?	?	?



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Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.A BUSINESS AND SMES DEVELOPMENT</b>							
Priority 1.3: <b>Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
	Training / initiatives addressed to diverse groups of business and service providers (e.g. farm owners, tourist site managers, staff, etc.).	Strengthening of public-private partnerships aimed at fostering co-decision among local communities on touristic plans and initiatives	○	○	○	○	○
	Training and awareness raising campaigns (thematic seminars, etc.) aimed to sensitize local communities (schools visits and demonstrations, fairs, etc.) and the private sector.	Promoting alternatives for niche tourism aiming at reinforcing local assets	○	○	○	○	○



**Priority 1.3: Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches**

This priority aims to support local communities, MSMEs, Tour Operators, protected areas management bodies and other relevant stakeholders, to address the diversification of the tourism offer, to reduce tourism seasonality and to promote vocations of involved territories. The main goals are to make Mediterranean tourism more competitive in the global market, to create new job opportunities and to reduce poverty while also improving environmental outcomes.

On the one hand, sustainable tourism has certainly beneficial effects for its potential to contribute to environmental protection and conservation, to raise awareness of natural values and as a tool to finance protection of natural areas and increase their economic importance. The reduction of tourism seasonality can also decrease the peak pressure that some touristic destinations face in the high season, a typical example being the pressure on the sewage system and water consumption in small coastal towns receiving a high number of tourists concentrated in 2-3 months in summer. On the other hand, the increase of tourism in less developed areas may have also negative effects concerning land transformations, and increased anthropogenic pressures related to the tourists' presence, which may potentially generate pressures on environmental resources. Every increase of tourism in an area inevitably entails, at least, an increase on water consumption, waste generation and energy use. Tourism development generally also requires the construction of new infrastructures (hotels, roads, paths). In natural areas, the increase of tourism can also determine disturbance to the wildlife and damage to ecosystems' function and structure. As shown in chapter 2, this is particularly the case in the Mediterranean Bioregion, at least in Europe. As emerges from the assessment of habitats conservation status carried out by EU Member States pursuant art. 17 of the Habitats Directive, several habitats types in the Mediterranean Bioregion suffer pressures from activities related to tourism, (including eco/adventure tourism) such as: trampling, overuse; roads, paths and railroads; car parks and parking areas; walking, horseriding and non-motorised vehicles; Outdoor sports and leisure activities, recreational activities.



**Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT**

**Thematic Objective: 1.B SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION**

**Priority 2.1: Support technological transfer and commercialisation of research results, strengthening the linkages between research, industry as well as private sector actors**

Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Enhanced demand driven technological transfer among research, industry and SMEs in the fields of clean/environmental technologies, new cultural heritage technologies and Key Enabling Technologies (KETs)	Living labs established where the scientific, industry and business communities can work and innovate together by matching the demands of innovation (SMEs) and offer of technological solutions (research actors/Universities).	Facilitating the creation of joint Mediterranean research and industrial networks, agencies, etc. to strengthen the sharing and dissemination of R&D	○	○	○	○	○
		Strengthening the links between research institutions (universities, research centers and institutes, etc.) and business, networking and dialogue facilitation	○	○	○	○	○
	Enhanced institutional capacity to manage cross sector projects involving both science and industry.	Joint definition of development strategies for technological transfer, clean/environmental technologies, cultural heritage and KETS in the Mediterranean region	✓	✓	✓	✓	✓
	Increased specialised staff engaged in industries and SMEs in the targeted fields.	Supporting economic activities in tradition and non-traditional sectors in decentralized areas via the promotion of clean/environmental, cultural heritage technologies and KETS	✓	✓	✓	✓	✓
	Enhanced capacity of public authorities and specialized intermediaries (e.g. Technology transfer offices located at Universities) that are aimed at the development of new services (e.g. Support for Proof of concept projects). Co-	Designing pilot projects to implement, disseminate and promote the use of environmental certifications, such as EMAS and ISO 14001, and procedures of territorial planning developed under Agenda 21, in business activities	✓	✓	✓	✓	✓



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## Strategic Environmental Assessment - screening procedure

Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.B SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION</b>							
Priority 2.1: <b>Support technological transfer and commercialisation of research results, strengthening the linkages between research, industry as well as private sector actors</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
	publications (in specific technological fields).	Joint definition of strategies and activities to promote the use of clean/environmental technologies	✓	✓	✓	✓	✓
Increased commercialization opportunities of research products in the fields of clean/environmental technologies, new cultural heritage technologies and Key Enabling Technologies (KETs)	New products/services developed for commercialisation in the ear-marked technological fields.	Supporting the introduction and development of innovative technical and financial services to local business to give impulse to research and innovation and to the subsequent commercialization of new products/services	✓	✓	✓	✓	✓
	Effective platforms allowing a pre-competitive analysis of promising products and services. Science to business brokerage events/fairs organised (e.g on market opportunities for researches and business actors).	Fostering the creation of public-private partnerships to ensure the reinforcement of the links between research and business, also through the exchange of best practices, training of local actors and co-development of innovative products and services	✓	✓	✓	✓	✓

**Priority 2.1: Support technological transfer and commercialisation of research results, strengthening the linkages between research, industry as well as private sector actors**

This priority aims to support research and innovation and to facilitate knowledge sharing and joint initiatives between research institutions and private sector actors. Envisaged actions include the diffusion of clean technologies and adoption of environmental certifications, which should foster the adoption of more environmental friendly production processes. Potentially, this can in turn affect positively all the environmental factors (water consumption, air emission, energy savings, waste production/management, ecosystems). However, actual impacts are not assessable at this stage, and will much depend on the specific technologies/projects that will be developed. The positive assessment of such actions reported in the table therefore assumes that new product/services developed **deliver a clear net benefit in environmental terms with respects to current products/services**. Therefore, it is suggested that this be a requisite for project selection in the forthcoming calls for proposal.

Under this condition, it is presumable that this priority will have positive or neutral interactions with the environment, and it is expected to have positive effects for the economic sector and the growth of the Mediterranean area's competitiveness.



Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT							
Thematic Objective: 1.B SUPPORT TO EDUCATION, RESEARCH, TECHNOLOGICAL DEVELOPMENT AND INNOVATION							
Priority 2.2: Support SMEs in accessing research and innovation also through clustering							
Expected Results	Indicative list of output	Indicative type of actions	Interaction				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Upgraded innovation capacity of SMEs participating in CBC Med projects in processes, products and management systems for uptake of research outcomes	New and/or adapted business support services developed in compliance with SME needs to raise capacities of SMEs for greater innovation and management efficiency (e.g. mentoring, training, coaching schemes, etc.).	Developing new and/or adapted business support, including IT services, to raise capacities of SMEs for greater innovation and management efficiency	○	○	○	○	○
		Developing joint cross-border supportive plans in close cooperation with SMEs reaching out to investments opportunities for new products/services/processes	○	○	○	○	○
		Training and mentoring of SMEs' entrepreneurs for implementing and making good use of innovative products/services/processes	○	○	○	○	○
	Cross-border innovation advisory support services developed (e.g. Innovation Voucher, Product & Idea development, Market Research, Sales, Finance and Funding, Networking, etc.). Tailored training events for SMEs, public authorities, researchers, managers, relevant businesses and end users.	Facilitating the creation of inclusive clusters for innovation in products, services and processes, including members from all economic actors public, private, R&D, no profit, etc.	○	○	○	○	○

**Priority 2.2: Support SMEs in accessing research and innovation also through clustering**

This priority aims to support SME through service provision, training, cooperation and the creation of clusters. As such, and given the detail of information available at this stage is expected to have neutral environmental impacts effects, which can potentially become positive if support to SME is oriented towards the development of new products and processes with improved environmental performance compared to current ones. Again, this is not foreseeable at this stage and will depend on the specific actions that will be awarded funding.



Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.C PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST POVERTY</b>							
Priority 3.1: <b>Provide young people, especially those belonging to the NEETS, and women with marketable skills</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Increased employability of women (all ages) and youths up to 30 years old, especially those belonging to the NEETS	<p>Branding' and marketing campaigns to enhance services that foster youth employment.</p> <p>Targeted training courses oriented to the labour market addressing youths (18-24 years old) and women (all ages) especially those belonging to vulnerable groups.</p> <p>Innovative learning tools and methodologies supported by new technologies (social media; mobiles).</p> <p>Coaching and tutoring actions with leading mentors, especially women, from successful businesses and civil society groups.</p> <p>Initiatives to better connect Technical Vocational Education and Training (TVET) with market needs and socio-professional sectors.</p> <p>Social employment initiatives jointly implemented by public institutions and civil society organisations.</p>	<ul style="list-style-type: none"> <li>Promoting initiatives aimed at reducing school drop-out rates and at reintroducing NEETS in educational paths</li> <li>Strengthening and enlarging the offer of tertiary, post-tertiary and vocational education and training, notably in rural areas and addressed at those economic sectors constituting the backbone of the cooperation area (agro-food, textile, tourism, etc.)</li> <li>Promoting cooperation in culture and education among the target groups and including teachers, educators and sector's operators</li> <li>Promoting networking, platform creation and pilot experiencing to increase exchange on experiences and opportunities of job creation and employability in the Mediterranean, including via public-private platforms and networks</li> <li>Enhancing the sustainability of employment through lifelong learning programmes and initiatives at cross-border level</li> </ul>	○	○	○	○	○

**Priority 3.1: Provide young people, especially those belonging to the NEETS, and women with marketable skills**

This priority, aiming at supporting women and NEETs in entering the labour market through providing them with marketable skills, have no foreseeable negative interaction with the environment and is expected to have socio-economic benefits.



Overarching Objective: <b>PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT</b>							
Thematic Objective: <b>1.C PROMOTION OF SOCIAL INCLUSION AND FIGHT AGAINST POVERTY</b>							
Priority 3.2: <b>Support social and solidarity economic actors, also in terms of improving capacities and co-operation with public administrations for services' provision</b>							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Enlarged access and improved quality of existing social services in favour of vulnerable people	<p>Social pilot schemes jointly developed for social services to the benefit of vulnerable populations.</p> <p>Cross-border learning and sharing events of different actors tackling specific social issues.</p> <p>Established and/or strengthened social and solidarity actors.</p>	<p>Promoting joint structures for the observation, analysis and – ultimately – proposals for reform of social services in the Mediterranean territories, including the association of local communities and governments from both shores of the Basin</p> <p>Promoting information, education and awareness-raising campaigns on the availability of social services for vulnerable sectors of the society and on their access</p>					
Reinforced planning, operational capacities and cooperation of public administrations and relevant stakeholders in providing social services	<p>Workshops, on-line platforms, etc., for learning and sharing about cooperation modalities for social services delivery.</p> <p>Case studies, reports, analysis on modalities for delivering social services.</p> <p>Cross-border staff exchanges and joint trainings among public authorities to plan, implement and coordinate social service delivery.</p>	<p>Drafting of joint programmes/plans/pilot initiatives for improving skill qualifications and avoid social exclusion of vulnerable groups</p> <p>Exchange of good practices on (local) public policies, in cooperation with the civil society (NGOs, associations, citizens), aiming also at the joint elaboration of actions plan for social services for the target group(s) in the cooperation area</p> <p>Training for civil servants, social services' operators and other relevant stakeholders on new innovative forms of social inclusion</p> <p>Facilitation of networking among the sector's operators, enhancing exchange, dialogue, mutual understanding and co-decision</p>	○	○	○	○	○

**Priority 3.2: Support social and solidarity economic actors, also in terms of improving capacities and co-operation with public administrations for services' provision**

At the status of information available, this priority has no negative interactions with the environment and, as the previous one, is expected to have positive social and economic effects, as it envisages mostly non material actions such as training, exchange of good practice and networking activity



Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT							
Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION							
Priority 4.1: Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Increased adoption of innovative sustainable water-efficiency technologies and systems in agriculture by public authorities, specialized agencies and other relevant stakeholders	Functional cross-border research networks on efficient water use and use of non-conventional water supply for irrigation purposes. New / enhanced cross-border thematic practitioner networks on water in agriculture with broad involvement of different relevant stakeholders to compile, disseminate and further develop technological solutions and stakeholder dialogue and water governance approaches Tailored training events on water-use efficiency and non-conventional water, addressed to farmers, practitioners and other relevant stakeholders. Initiatives/pilot projects to showcase, exchange, test and transfer water management solutions (water-efficient irrigation, drip-irrigation, grey water/ wastewater treatment plants). Water management and local governance plans in participating countries that integrate non-conventional water resources and water efficiency concerns.	Developing good practices in the management of water, waste water and non conventional water in agriculture, mainly through exchange of experiences and networking	✓	○	○	?	?
		Enhancing sanitary quality of water through pilot actions and demonstrative initiatives, notably in vulnerable areas and in regions characterized by water scarcity and/or draught phenomena	✓	○	○	○	✓
		Supporting the implementation and diffusion of new technologies for water efficiency and sanity, notably through pilot actions and exchange of best practices among relevant actors	✓	○	○	?	✓
		Training of local agricultural producers, public agencies' civil servants and other relevant stakeholders on the efficient use of water and on new technologies to scale-up water management	✓	○	○	○	○



Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT							
Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION							
Priority 4.1: Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Increased adoption of innovative sustainable water-efficiency technologies and	Functional cross-border research networks on efficient water use and use of non-conventional water supply for irrigation purposes. New / enhanced cross-border	Developing good practices in the management of water, waste water and non conventional water in agriculture, mainly through exchange of experiences and networking	✓	○	○	?	?
Support research and development for locally applicable and low-cost technologies for the use of non conventional water resources for domestic purposes	Tailored trainings and events to raise awareness on the use of non-conventional water resources for domestic water supply.	Development of pilot projects and demonstrative initiatives for the transfer of experiences and knowledge on water management and low-cost technologies for the domestic use of non-conventional water	✓	○	○	○	○
	New/enhanced cross-border thematic practitioner networks on domestic water supply with broad involvement of relevant stakeholders to compile, disseminate and further develop technological solutions and stakeholder dialogue and water governance approaches.	Training of householders, representatives of public authorities and other relevant stakeholders on the efficient use of water and on new technologies to scale-up water management	✓	○	○	○	○
	Initiatives/pilot projects to showcase, exchange, test and transfer water management solutions. (rooftop water harvesting, grey water/ wastewater treatment plants, desalination plants)	Strengthening and support of links between research and public utilities for the implementation and diffusion of new low-cost technologies to non—conventional water management	✓	○	○	○	○



**Priority 4.1: Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply**

Action envisaged under this priority seeks to alleviate the problem of water scarcity in dry areas by exploiting non-conventional water. Whilst conventional resources consist of the water available from rainfall and snowmelt, which is used on site or taken from rivers, streams, lakes, reservoirs, and aquifers. These resources are renewable through the natural processes of the hydrological cycle. Non-conventional water sources are obtained through specialized processes such as desalination of seawater and highly brackish water; harvest of rainwater; collection, treatment, and use of wastewater; capture and reuse of agricultural drainage water; extraction of groundwater containing a variety of salts. Appropriate strategies for managing soil, water and crops may also be needed when these resources are used for irrigation (Qadir et al, 2007<sup>108</sup>).

Whilst decreasing pressure on aquifers and other sources of water, the development of non-conventional water management can entail other effects on the environment: desalinisation for example requires a lot of energy per unit of water treated, if realized through distillation; other less energy requiring techniques like inverse osmosis are also available, but they imply higher investments in technology and produce water with higher concentration of dissolved solids (ibid).

Other potential environmental implications of desalinisation processes concerns the disposal of effluents: desalinated seawater generally has a salts concentration about twice that of the original seawater. The concentrate also contains the chemicals used during the pre-treatment of the feed water. Systems thus need to be accurately designed to minimize the potential impacts of brine disposal. Studies in fact has shown that this can have negative effects on marine ecosystems (for desalinated seawater re-discharged into the sea) or on the aquifer, for treated water disposed in freshwater bodies.

Another source of non-conventional water is rainfall and runoff water captured by water harvesting. There are several systems of water harvesting which greatly vary in terms of size, from large scale catchments to micro-scale ones. Runoff water can be captured through dikes from hillsides and diverted towards cropland. Such systems are relatively simple to design and maintain. Other advantages are that they can be used on almost any kind of slope, including slight slopes on almost level plains. Farmers can easily be trained to use such technologies. On the other hand, they depend on limited and uncertain rainfall; they shall be kept clean from vegetation, which require high labour inputs and could imply modification to the habitat; plus, the catchment requires land that could otherwise be used for cropping or left to the natural status.

Guidelines for good practices exist with regards to different forms of non-conventional water use, so it is recommended they are taken into account in preparing the calls of this priority.

<sup>108</sup> Qadir, M., Sharma, B. R., Bruggeman, A., Choukr-Allah, R., & Karajeh, F. (2007). Non-conventional water resources and opportunities for water augmentation to achieve food security in water scarce countries. *Agricultural Water Management*, 87(1), 2-22.



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Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT							
Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION							
Priority 4.2: Reduce municipal waste generation, promote source separated collection and its optimal exploitation in particular its organic component							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Efficient and effective integrated municipal waste management systems are planned and operationalized on a pilot basis	<p>Twinning and other exchange programs to improve technical and operational capacities of public administrations and relevant institutions/bodies.</p> <p>Tailored events and trainings delivered to municipal officials and staff.</p> <p>Cross-border plans and pilot actions on integrated municipal waste management, in close cooperation with private companies.</p>	<p>Exchanges among local Mediterranean administrations on waste management systems and technologies, for the elaboration and implementation of good practices in waste treatment.</p> <p>Training and professionalisation of waste management professionals.</p> <p>Promoting public-private partnerships and agreements for better waste management and larger use of innovative processes.</p> <p>Organisation of joint communication and awareness-raising campaigns and events for the promotion of efficient waste collection among the local populations</p>	○	○	✓	○	○
	<p>Common solutions and approaches developed for optimization of the Municipal Waste Management System.</p> <p>Increased awareness of citizens, industries and SMEs towards the reduction of waste generation, reuse and product valorisation.</p>	<p>Pilot initiatives and demonstrative projects for the reuse of waste and for higher efficiency in the treatment phase</p>	○	?	✓	○	?

**Priority 4.2: Reduce municipal waste generation, promote source separated collection and its optimal exploitation in particular its organic component**

This priority aims to support technical and operational capacities of public administrations and relevant institutional stakeholders in terms of municipal waste management, also trying to share best practices among Mediterranean countries. Widespread reduction, reuse and recycle of solid waste and recovery of energy from waste allows to enhance resource efficiency while reducing the adverse environmental impacts caused by waste disposal. In this sense this priority is expected to have positive effects on the environment, while on the other side the adoption of technologies for the management and disposal of waste, including its use as an alternative energy source, if not properly managed, can potentially bring direct or indirect effects on the environment.



Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT							
Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION							
Priority 4.3: Renewable energy and energy efficiency - Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				
			Water	Air emissions	Waste management	Energy	Ecosystems and landscapes
Enhanced capacity of public institutions to plan and implement sustainable energy policies and measures with regard to public buildings.  Reduced and cleaner energy consumption in public buildings through the use of renewable energy measures and energy saving interventions	Administrative and legal provisions for sustainable urban design through innovative approaches regarding sustainable building and energy efficiency	Exchanges among local Mediterranean administrations on elaboration and implementation of good practices in energy efficiency	○	✓	○	✓	○
	Energy-mix efficiency plans/strategies developed to stimulate cost-effective deep renovations of buildings.	Facilitating public-private partnerships for the development of cross-cutting strategies for energy efficiency in public buildings	○	✓	○	✓	?
	Cross-border case studies that demonstrate potential replication of proposed measures and solutions (including technologies, methodologies, systems or tools).	Developing strategies and pilot projects and demonstrative initiatives for the diffusion of energy performance certificates and energy audits	○	✓	○	✓	○
	Twinning and knowledge sharing activities involving public authorities.	Application of renewable energy – or other cost-effective technologies for energy efficiency - systems to public buildings (demonstrative actions and pilot projects)	?	✓	?	✓	?
	Implementation of pilot cost-effective technologies for energy efficiency and renewable energy.						
Energy performance certificates.							
Renewable energy systems (solar, etc) application to public buildings.							



**Priority 4.3: Renewable energy and energy efficiency - Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings**

This priority aims to support renewable energy and energy efficiency diffusion with a particular focus on public buildings. This priority is expected to have positive impacts on the environment in terms of energy efficiency and, indirectly, in terms of reduction of air pollution and greenhouse gas emission, with consequent positive effects on human health and climate change.

On the other side, the design of micro-power generation systems on buildings shall take into account local conditions to avoid some potential negative impacts, for example on landscape.

The main systems of power micro-generation in buildings are micro wind-turbine, solar panels to generate heat and photovoltaic panels to generate electricity. An overall assessment of the environmental implications of such technologies shall adopt a life-cycle approach, because the positive impact of the production of power with renewable resources comes at the costs associated to the construction of the technologies needed. Such an analysis is obviously beyond the scope of this report, but some studies may be used to gain some general insights. For instance, Greening and Azapagic (2013)<sup>109</sup> compares the overall environmental impacts of micro-wind turbines with photovoltaic panels and grid electricity. Impacts are assessed by taking into account the whole life-cycle of the different technologies, including transport costs, raw-material extraction and processing, and disposal. Results showed that micro-turbines have less impacts on the majority of the environmental factors considered, except in the case depletion of elements, fresh-water and human toxicities. Such findings are context-dependent (UK in this case) but the general message is that before implementing such projects, life-cycle analysis shall be carried out with input data reflecting the specific context to identify the best solution.

<sup>109</sup> Greening, B., & Azapagic, A. (2013). Environmental impacts of micro-wind turbines and their potential to contribute to UK climate change targets. *Energy*, 59, 454-466



Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT							
Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION							
Priority 4.4: Integrated Coastal Zone Management - Incorporate the Ecosystem-Based management approach to ICZM into local development planning, through the improvement of intra-territorial coordination among different stakeholders							
Expected Results	Indicative list of output	Indicative type of actions	Interactions				Ecosystems and landscapes
			Water	Air emissions	Waste management	Energy	
Enhanced capacity of public authorities to plan for, sustainably manage, use and monitor their coastal ecosystems, using an effective participatory approach with relevant stakeholders and local communities	Training activities and workshops addressing different stakeholders to support ecosystem-based planning and management for coastal zones.	Organisation of training activities and workshops addressing different stakeholders to support ecosystem based planning and management for coastal zones	○	○	○	○	✓
	Spatial planning software, information tools (GIS) and tools for data analysis, data integration and forecasting in support of decision-makers that contribute to ecosystem assessment and monitoring of Mediterranean coastal zones.	Pilot initiatives for the implementation, use and diffusion of new/innovative/existing technologies for ICZM	?	?	?	?	✓
	Knowledge sharing platforms benefitting local stakeholders involved in coastal planning and management.	Joint definition among Mediterranean territories of sustainable strategies/plans for ICZM	○	○	○	○	✓
	Communication materials for dissemination and engagement with societal stakeholders and the public at large, e.g. via schools, aquaria, maritime and science museums, etc.	Organisation of communication and awareness-raising campaigns for the diffusion of best practices and knowledge on ICZM and for the enhancement of societal engagement	○	○	○	○	✓
	Studies and data collection activities aimed at improving knowledge of marine ecosystems and their interlinkages with human activities.	Sharing and diffusion of knowledge on ICZM and reduction of coastal hazard via researches and field studies	○	○	○	○	✓

**Priority 4.4: Integrated Coastal Zone Management - Incorporate the Ecosystem-Based management approach to ICZM into local development planning, through the improvement of intra-territorial coordination among different stakeholders**

This priority aims to strengthen coordination and improve the capacities of different cross border administrations and relevant stakeholders with specific reference to planning and monitoring, in incorporating the Ecosystem-Based management approach to ICZM. This priority is expected to have beneficial effects on the environment in terms of marine ecosystem preservation, coastal erosion prevention, sea pollution reduction. Nevertheless it is important to pay attention to typologies of actions to improve the targeted ecosystem and to typologies of measures adopted to prevent negative impacts of coastal hazards. Some kind of intervention, if not correctly designed or managed, may have negative environmental effects, including on the marine ecosystem.



In conclusion Programme Priorities for which potential environmental effects cannot be entirely excluded given the current status of information available are:

- **Priority 1.1** - Support innovative start-up and recently established enterprises.
- **Priority 1.2** - Strengthen and support networks, clusters, consortia and value chains.
- **Priority 1.3** - Encourage sustainable tourism initiative and actions.
- **Priority 4.1** - Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply.
- **Priority 4.2** - Reduce municipal waste generation and promote source-separated collection and the optimal exploitation of its organic component.
- **Priority 4.3** - Renewable energy and energy efficiency - Support cost-effective and innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings.
- **Priority 4.4** - Integrated Coastal Zone Management - Incorporate the Ecosystem-Based management approach to ICZM into local development planning.

Interventions implemented under such priorities presents a low risk occurrence of environmental negative interactions, also because the projects will be largely characterized by intangible actions with limited pilot interventions. Nevertheless, since at this level of definition any potential environmental effects cannot be entirely excluded, the Programme foresees five levels of environmental attention, as described in Chapter 6.

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## 5.2 Effects and environmental criteria for potential intervention typology

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In this section it is presented a not exhaustive list of possible intervention typologies, and relative potential effects, for each priority having a potential interaction with the environment, as identified previously. In relation to the expected impact typology, some environmental criteria are also suggested. This list is purely indicative because, as mentioned above, at this stage of wide priorities' definition it is not possible to develop a detailed environmental analysis. For this purpose more specific levels of environmental assessments will be carried out later during the process (see Chapter 6 "Procedural elements").

The compliance with the attention measures provided in this section, does not imply the exclusion of the project from any Environmental Impact Assessment procedure, if provided by EU legislation.

Overarching Objective: PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT				
Thematic Objective: 1.A BUSINESS AND SMES DEVELOPMENT				
PRIORITY	Expected Results	Indicative type of actions	Indicative type of effects	Environmental criteria
<b>Priority 1.2:</b> <b>Strengthen and support euro-Mediterranean networks, clusters, consortia and value-chains in traditional (agro-food, tourism, textile/clothing, etc.) and non-traditional sectors (innovative ideas solutions for urban development, eco-housing, sustainable water-related and other clean technologies, renewable energy, creative industries, etc.)</b>	Increased number of MSMEs participating in Euro-Mediterranean enterprise alliances  Cross-border-enterprise alliances empowered by the support from and cooperation with public authorities	Development of productive/industrial sectors source of air emissions	<ul style="list-style-type: none"> <li>▪ air pollution;</li> <li>▪ greenhouse gas emissions;</li> <li>▪ soil consumption</li> </ul>	<ul style="list-style-type: none"> <li>▪ Location, level of exposure of population;</li> <li>▪ installation of pollution controls and pollution abatement technologies</li> </ul>
		Development of renewable energy sector	depending on the production plant (see the priority 4.3)	(see the priority 4.3)
		Intensification of agricultural production	<ul style="list-style-type: none"> <li>▪ soil degradation and erosion;</li> <li>▪ Increase of water consumption</li> <li>▪ Water pollution</li> <li>▪ depletion and pollution of natural water resources;</li> <li>▪ loss of natural habitats;</li> <li>▪ reduction of biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase of chemicals inputs (Nitrogen and pesticides)</li> <li>▪ New agricultural areas on natural or semi natural habitats</li> <li>▪ Implementation of biodiversity friendly farming practices</li> </ul>
		Intensification of aquaculture	<ul style="list-style-type: none"> <li>▪ degradation of water quality;</li> <li>▪ negative effects on biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>▪ careful selection of location;</li> <li>▪ sustainable use of natural resources, compatible with its ability to regenerate</li> <li>▪ proximity to natural areas</li> <li>▪ conflict in the use of resources (water)</li> <li>▪ Technologies envisaged to manage residuals</li> <li>▪ Controls</li> </ul>
		Intensification of fishing	<ul style="list-style-type: none"> <li>▪ negative effects for the marine biodiversity of the area</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assessment of the current level of depletion of the stocking fish</li> </ul>
		Intensification of tourism	(see the priority 1.3)	(see the priority 1.3)
<b>Priority 1.3:</b> <b>Encourage sustainable tourism initiatives and actions aimed at diversifying into new segments and niches</b>	Increased attractiveness of less known touristic destinations  Increased diversification of tourism offer through the promotion of local and territorial assets / drivers in off season periods	Construction of general infrastructure to increase accessibility of less developed touristic areas	<ul style="list-style-type: none"> <li>▪ soil consumption;</li> <li>▪ loss of natural habitats;</li> <li>▪ ecosystem fragmentation;</li> <li>▪ air pollution.</li> </ul>	<ul style="list-style-type: none"> <li>▪ careful selection of locations</li> <li>▪ management of tourist fluxes in relation to the ecological characteristics of the natural sites</li> <li>▪ analysis of pressures already affecting natural sites (e.g. Natura 2000 sites)</li> </ul>
		Construction or increase of tourism facilities (e.g. resorts, hotels, restaurants, shops, marinas)	<ul style="list-style-type: none"> <li>▪ soil consumption;</li> <li>▪ deforestation for land clearing and fuel wood collection;</li> <li>▪ loss of natural habitats;</li> <li>▪ landscape impacts;</li> <li>▪ consumption and degradation of water supplies (e.g. saline intrusion into groundwater if overpumping the water from wells);</li> <li>▪ sewage production;</li> <li>▪ waste production;</li> <li>▪ extraction of building materials.</li> </ul>	<ul style="list-style-type: none"> <li>▪ careful selection of location;</li> <li>▪ keep the level of visitor use minor than the environment's ability to cope with this use;</li> <li>▪ avoid tourism pressures in areas with short supply of resources (e.g. energy, water, food). Greater extraction and transport of these resources exacerbates the physical impacts associated with their exploitation.</li> </ul>
		Development of tourism activities in fragile ecosystems in marine areas (e.g. anchoring, snorkeling,	<ul style="list-style-type: none"> <li>▪ alteration of nearby marine ecosystems such as coral reefs;</li> <li>▪ impacts on coastal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Assessment of the sustainable level of fluxes tourists and presences that the site can sustain without</li> </ul>

		sport fishing, scuba diving, yachting, cruising )	protection and fisheries	decreasing in ecological functionality
		Tourism leisure activities in sensitive ecosystems (e.g. wildlife viewing, safaris)	<ul style="list-style-type: none"> <li>▪ degrading effect on habitat</li> <li>▪ disturbance to flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>▪ interdiction or limited accessibility of sensitive natural areas</li> </ul>

### Overarching Objective: ADDRESS COMMON CHALLENGES IN ENVIRONMENT

#### Thematic Objective: ENVIRONMENTAL PROTECTION, CLIMATE CHANGE ADAPTATION AND MITIGATION

PRIORITY	Expected Results	Indicative type of actions	Indicative type of effects	Environmental criteria
<b>Priority 4.1: Support sustainable initiatives targeting innovative and technological solutions to increase water efficiency and encourage use of non-conventional water supply</b>	Increased adoption of innovative sustainable water-efficiency technologies and systems in agriculture by public authorities, specialized agencies and other relevant stakeholders	Water desalination Plants	<ul style="list-style-type: none"> <li>▪ soil consumption;</li> <li>▪ energy consumption;</li> <li>▪ air pollution;</li> <li>▪ greenhouse gas emissions;</li> <li>▪ thermal pollution;</li> <li>▪ long-term impact on marine life because of seawater intakes;</li> <li>▪ disposal of the highly concentrated salt brine and other chemicals used throughout the process;</li> <li>▪ noise;</li> <li>▪ visual pollution</li> </ul>	<ul style="list-style-type: none"> <li>▪ attention to methods for brine discharge and chemicals for pretreatment purposes;</li> <li>▪ develop the necessary tools and guidelines for mitigating the adverse environmental effects of non-conventional water resources</li> </ul>
		Wastewater and rainwater treatment plants	<ul style="list-style-type: none"> <li>▪ soil consumption;</li> <li>▪ water pollution because of improperly disposition of extracted nutrients, which can promote algal growth in lakes, rivers and near-shore marine environments</li> </ul>	<ul style="list-style-type: none"> <li>▪ attention to disposal methods of extracted nutrients.</li> </ul>
<b>Priority 4.2: Reduce municipal waste generation, promote source separated collection and its optimal exploitation in particular its organic component</b>	Efficient and effective integrated municipal waste management systems are planned and operationalized on a pilot basis	Biomass power plants	<ul style="list-style-type: none"> <li>▪ land use;</li> <li>▪ air emissions for biomass burning;</li> <li>▪ water use (for cooling technologies and for the production of some biomass feed stocks)</li> <li>▪ global warming emissions associated with growing and harvesting biomass feedstock, transporting feedstock to the power plant, and burning or gasifying the feedstock</li> <li>▪ impacts on landscape;</li> </ul>	<ul style="list-style-type: none"> <li>▪ use of low water consumption facility's cooling technology (e.g. wet-recirculating cooling systems which reuse cooling water in a second cycle rather than immediately discharging it);</li> <li>▪ use of feedstock sources which require no additional water ( e.g. agricultural, urban waste);</li> <li>▪ choose no water biomass feedstocks intensive;</li> <li>▪ locate plants in regions with sufficient rainfall;</li> <li>▪ choose feed stock and combustion technologies with lower air emissions;</li> <li>▪ install pollution controls.</li> </ul>
		Biogas plants	<ul style="list-style-type: none"> <li>▪ - air emissions</li> <li>▪ - odoriferous emissions</li> <li>▪ - noise</li> <li>▪ - severs</li> </ul>	<ul style="list-style-type: none"> <li>▪ proper management of biomass stocks (storage in closed containers, limitation of storage time)</li> <li>▪ adoption of measures to reduce noise</li> </ul>
<b>Priority 4.3: Renewable energy and energy efficiency - Support cost-effective and</b>	Enhanced capacity of public institutions to plan and implement sustainable energy	Wind Power plants	<ul style="list-style-type: none"> <li>▪ land consumption;</li> <li>▪ interference with wildlife and habitats (avifauna death from collisions with wind turbines);</li> </ul>	<ul style="list-style-type: none"> <li>▪ careful selection of wind turbines siting;</li> <li>▪ minimize blade surface imperfections and use of</li> </ul>

<b>innovative energy rehabilitations relevant to building types and climatic zones, with a focus on public buildings</b>	<p>policies and measures with regard to public buildings</p> <p>Reduced and cleaner energy consumption in public buildings through the use of renewable energy measures and energy saving interventions</p>		<ul style="list-style-type: none"> <li>visual impact on the landscape of wind farms or single windmill blades;</li> <li>emissions associated to materials production, materials transportation, on-site construction and assembly, operation and maintenance, decommissioning and dismantlement;</li> <li>sound impacts</li> <li>offshore wind farms also impact fish and other marine wildlife</li> </ul>	<ul style="list-style-type: none"> <li>sound-absorbent materials to reduce wind turbine noise;</li> <li>provide monitoring systems for offshore wind facilities.</li> <li>life-cycle types assessment demonstrating that the proposed technology actually has a better environmental performance than current systems</li> </ul>
		Solar Power plants	<ul style="list-style-type: none"> <li>land consumption;</li> <li>habitat loss;</li> <li>use of hazardous materials for the PV cell manufacturing process and the semiconductor surface cleaning;</li> <li>impacts on landscape</li> </ul>	<ul style="list-style-type: none"> <li>locate solar systems in lower-quality locations (e.g. brownfields, abandoned mining land, existing transportation and transmission corridors, roofs of homes or commercial buildings);</li> <li>ensure that manufacturing waste products are disposed of properly;</li> <li>ensure workers from exposure to chemicals.</li> <li>life-cycle types assessment demonstrating that the proposed technology actually has a better environmental performance than current systems</li> </ul>
		Biomass power plants	(see Priority 4.2)	(see Priority 4.2)
		Geothermal power plants	<ul style="list-style-type: none"> <li>land use;</li> <li>water quality and water consumption;</li> <li>air emissions</li> </ul>	<ul style="list-style-type: none"> <li>careful selection of location.</li> </ul>
		Hydroelectric power plants	<ul style="list-style-type: none"> <li>land consumption;</li> <li>reduction of water levels downstream;</li> <li>negative impacts on aquatic ecosystems (e.g. fish and other organisms can be injured and killed by turbine blades);</li> <li>impacts on the landscape;</li> <li>global warming emissions produced during the installation and dismantling of hydroelectric power plants.</li> </ul>	<ul style="list-style-type: none"> <li>careful selection of location;</li> <li>implement methods to minimize wildlife impacts (including fish ladders and intake screens).</li> </ul>
<b>Priority 4.4: Integrated Coastal Zone Management - Incorporate the Ecosystem-Based management approach to ICZM into local development</b>	<p>Enhanced capacity of public authorities to plan for, sustainably manage, use and monitor their coastal ecosystems, using an effective participatory approach with</p>	Sand moving / beach replenishment	<ul style="list-style-type: none"> <li>potential effects for the ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li>careful selection of location;</li> <li>Realization of ad hoc studies on the specific conditions of the site (or acquisition of previous study)</li> <li>careful selection of sand chemical and microbiological composition and sand quality;</li> </ul>



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planning, through the improvement of intra-territorial coordination among different stakeholders	relevant stakeholders and local communities			<ul style="list-style-type: none"> <li>careful selection of sediment extraction methods.</li> </ul>
		Barriers to prevent coast erosion	<ul style="list-style-type: none"> <li>potential effects for the marine ecosystem</li> </ul>	<ul style="list-style-type: none"> <li>careful selection of location;</li> <li>careful selection of systems and technologies.</li> </ul>

# Chapter 6



## Procedural Elements

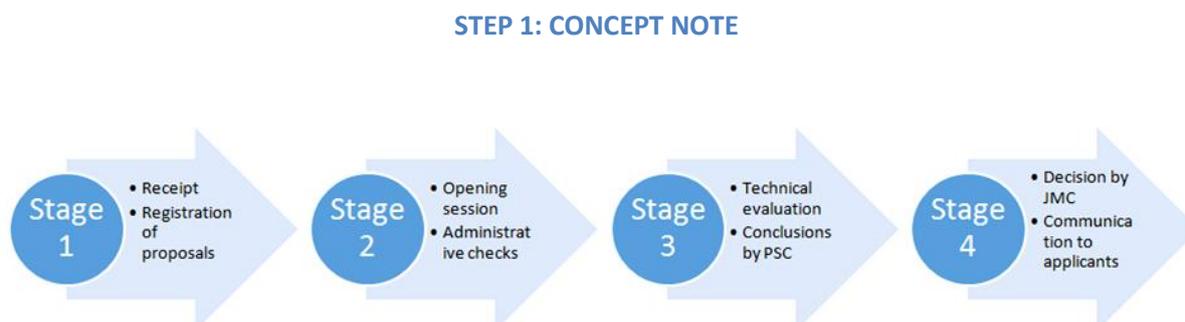
## 6.1 Evaluation process description

### 6.1.1 Project selection procedures

The ENI-CBC-MED Programme 2014-2020 describes on its third Chapter the project selection procedure. In this section this procedure is synthetized in order to explain in which stage of the procedure the levels of environmental assessment further provided are integrated.

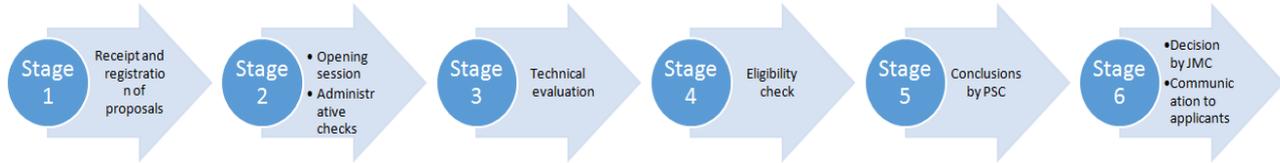
Calls for Proposals will be restricted: it will be a two-step procedure where any eligible institutions may ask to take part, but only the applicants who have been shortlisted (on the basis of a Concept Note in response to the published Guidelines for Applicants) are invited to submit a Full Proposal.

The assessment process for each of the two steps may be summarised as follows:



- Stage 1: receipt and registration of Proposals by the Managing Authority (MA).
- Stage 2: administrative check, to assess whether the Proposals comply with all the administrative criteria mentioned in the checklist and included in the Concept Note form. The administrative checks shall be carried out by internal assessors from the Joint Technical Secretariat (JTS) and Branch Office assessors (BOs). The Chairperson supported by the Projects Selection Committee (PSC) Secretary will ensure a double check of the administrative check-grid of the internal assessors. Once the administrative check is complete, the Chairperson, with the support of the Secretary, will establish a list of all the proposals satisfying the criteria.
- Stage 3: evaluation of the Concept Note for the relevance and design of the action, using an evaluation grid included in the Guidelines for Applicants. The completed evaluation grids for each Concept Note shall be sent to the members of the PSC.
- Stage 4: decision by Joint Monitoring Committee (JMC), which decide whether or not to accept the recommendations of the PSC. The shortlisted Applicants are then invited in writing to submit a Full Application Form.

## STEP 2: FULL APPLICATION FORM



- Stage 1: receipt and registration of proposals.
- Stage 2: administrative check.
- Stage 3: technical and financial evaluation. The quality of the full applications (FAF) is assessed using the evaluation grid containing the selection and award criteria. The Secretary then draws up a list of all the proposals, ranked by score. The completed evaluation grids for each proposal must be sent to the PSC.
- Stage 4: eligibility check. The eligibility verification of Applicants and co-applicants will be based on the content of the Declaration by the Applicant and the supporting documents requested by the MA or uploaded in the IT management and information system.
- Stage 5: Conclusions by PSC, which draws up a list of the proposals to be selected for financing, indicating the score obtained by each proposal, the requested amount of the grant and the percentage of the eligible costs proposed to be financed. The final Evaluation Report, covering the eligibility checks, is drawn up following the final meeting of the PSC and it must be signed by all of the PSC members.
- Stage 6: decision by JMC.

### 6.1.2 Five levels of environmental attention

The Programme, as has already been highlighted previously, is characterized by a low likelihood of impacts' occurrence because it is expected that standard, strategic and capitalization projects, will be largely characterized by intangible actions with limited pilot interventions. Nevertheless, since at this level of definition any potential environmental effects cannot be entirely excluded, the Programme foresees five levels of environmental attention.

These five levels operate as "screeners", following one after the other, so as to progressively require additional information only to those proposals having possible effects on the environment.

In this way it is possible:

- on the one hand **to require an environmental focus already from the initial stage of the formulation of all the single proposals;**
- on the other hand to reduce the bureaucratic aspects of assessment, because **only some of the proposals will be required to reach the fifth level of attention.**

For the assessment is carried out for successive levels of in-depth analysis, passing through successive more detailed sieves, more specific evaluations are required only when the intervention proposal achieved a greater level of definition (e.g. typology, localization).

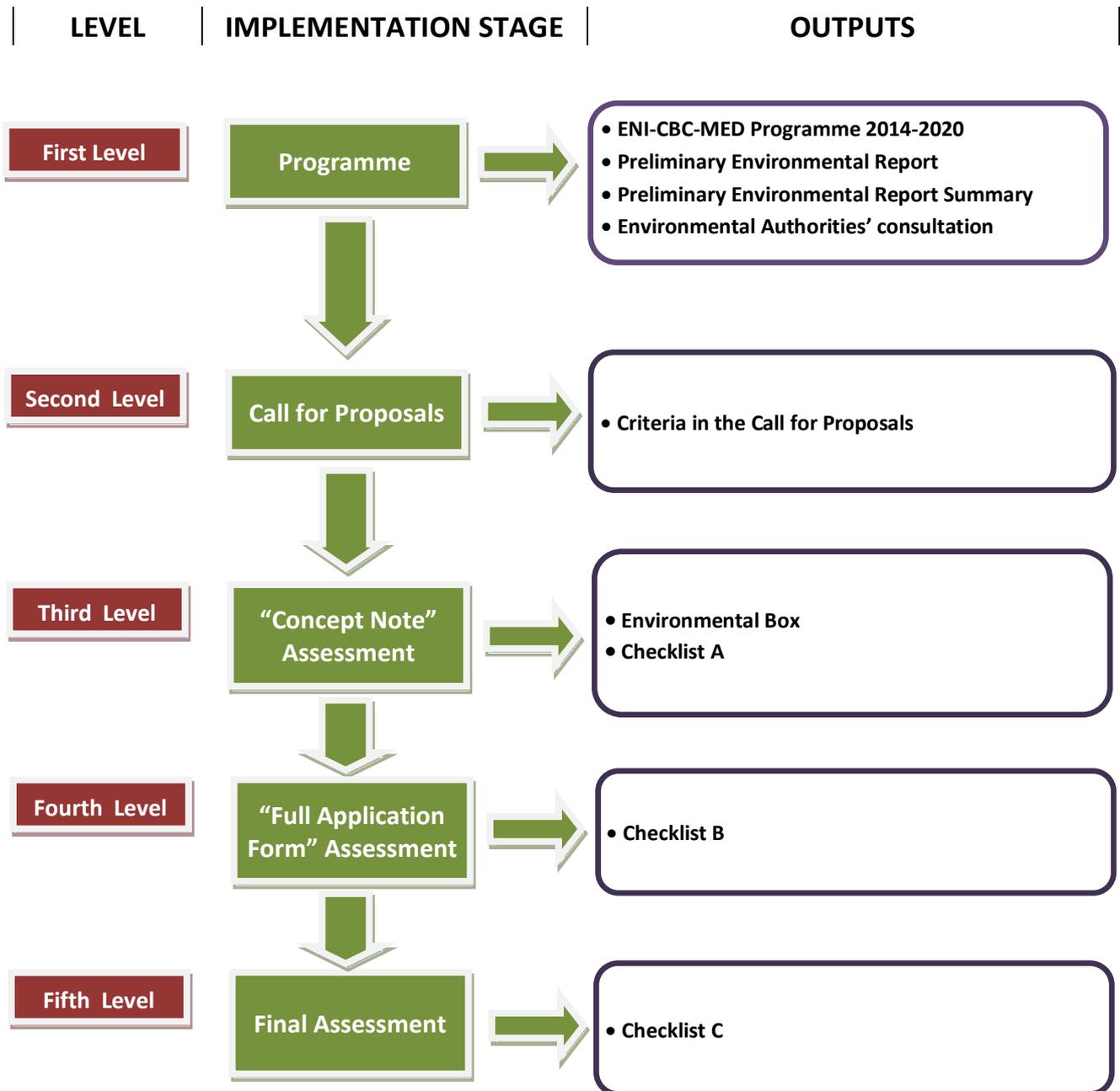
In addition, another measure aimed at guaranteeing the overall sustainability of the Program is put forward: as already stated in chapter 5, plans, programs and projects financed by this Program are subjected to exiting SEA and EIA procedures defined by EU and national/regional legislations. The possible exemption of the Program itself from the full SEA procedure does not imply that further plans, programs and projects partially or totally financed by it are excluded from these procedure. To ensure that all types of interventions with potential effects on the environment as identified in chapter 5 undergo an environmental assessment phase, it is proposed that those plans, programs and projects which are included in the field of application of SEA and EIA EC Directive and that are realized in non-EU countries are accompanied by an Environmental Impact Study or an Environmental Report with the same contents as those provided for by the two above-mentioned directives.

This is justified by the fact that such P/P/P are realized with contribution from the European Union, so it appears fair that the same level of consideration of environmental factors is given in both EU and non EU Countries, even if in the latter case it is not possible, by legislation, to conduct a full SEA/EIA.

The five levels of environmental attention are described in the following table and synthetized in the further diagram. It is envisaged that the results of the screenings (i.e. the information provided by proponents are evaluated by the Programme Managing Authority that, to this end, will resort to the technical competences of an Environmental Assessor in charge of collecting and synthesizing the different sectoral analysis and, if necessary, to require further information to the proponents. He/she will examine the information provided by proponents about possible environmental effects of the proposal (3<sup>rd</sup> level as described below, checklist A) and will advise the Managing Authority about the need to require further information as described in the fourth and fifth level (checklists B and C, see below). He will also advise the Managing Authority on the needs of requiring integrations and amendments to proponents regarding the checklists.

1 <sup>st</sup> LEVEL	<b>Contents of the “ENI CBC MED PROGRAMME” and of the “Preliminary Environmental Report”</b>	<p>The Programme is based on environmental analysis and it is characterized by a high level of attention to the sustainable development issues. To avoid potential effects, possible in any kind of anthropic activity, some additional "elements of environmental attention" are planned:</p> <ul style="list-style-type: none"> <li>• The first "screening" is represented by this <b>Preliminary Environmental Report</b>, with the assessment of environmental effects, the indication of Programme Priorities to be subjected to environmental attention, the definition of different levels of environmental attention.</li> <li>• A <b>Summary</b> synthesizing the main conclusion of the Preliminary Environmental Report.</li> <li>• The <b>Stakeholders Consultation</b>: all National Environmental Authorities (EAs) will receive a copy of the Programme together with the Preliminary Environmental Report, its Summary and an assessment Questionnaire.</li> </ul>
2 <sup>nd</sup> LEVEL	<b>Call for Proposals</b>	<p>The Call for Proposals represents the second “screener” of the Programme. In the Call for Proposals the criteria on environmental sustainability to be included in the assessment will be strengthened:</p> <ul style="list-style-type: none"> <li>• for all proposals (regardless of whether they are material or immaterial, and regardless of whether they belong to Priorities requiring a greater environmental attention) it will be required to fill an “Environmental box”</li> <li>• only for proposals regarding the Programme Priorities with potential environmental effects, it will be required to fill in the “Screening Checklist for Concept Note”</li> </ul>
3 <sup>th</sup> LEVEL	<b>“Concept Note” Submission + Assessment</b>	<p>The “Concept Note” phase represents the first assessment of the specific intervention’s proposal. At this stage:</p> <ul style="list-style-type: none"> <li>• All “<u>Concept Notes</u>” (regardless of whether they are material or immaterial, and regardless of whether they belong to Priorities requiring a greater environmental attention) are required to present the “<b>Environmental box</b>” with the aim to: <ul style="list-style-type: none"> <li>- precisely define the type of intervention envisaged and, if any, its possible direct or indirect effect on the environment;</li> <li>- define possible environmental benefits deriving from the implementation of the project’s proposal.</li> </ul> </li> <li>• <u>Only “Concept Notes” regarding the Programme Priorities with potential environmental effects</u> (see Chapter 5), are required to present the “<b>Screening Checklist for Concept Note</b>” (<b>Checklist A</b>).</li> </ul> <p>After receiving all the documents, the “Environmental box” and the “Checklist A” will be assessed and the MA should:</p> <ul style="list-style-type: none"> <li>• require details or require to fill the “Checklists A” <u>to some proposals not included</u> in the “<i>Programme Priorities with potential environmental effects</i>” which, in the light of the “Environmental box” contents, may have potential environmental effects;</li> <li>• require, <u>only for those proposals needing a greater level of assessment detail</u>, to fill in the “Effects Checklist for Full Application” (Checklist B).</li> </ul>
4 <sup>th</sup> LEVEL	<b>“Full Application Form” Submission + Assessment</b>	<p>The “Full Application Form” phase represents the second assessment of the specific intervention’s proposal. At this stage:</p> <ul style="list-style-type: none"> <li>• <u>only those proposals needing a greater level of assessment as identified in the previous phase</u>, are required to present the “<b>Effects Checklist for Full Application</b>” (<b>Checklist B</b>).</li> </ul> <p>After receiving all the documents, the “Checklist B” will be assessed and the MA should:</p> <ul style="list-style-type: none"> <li>• require, <u>only for those proposals needing a greater level of assessment detail</u>, to fill in the “Sustainability Checklist and Report” (Checklist C).</li> </ul>
5 <sup>th</sup> LEVEL	<b>“Sustainability Checklist and Report”</b>	<p>This phase represents the last assessment of the specific intervention’s proposal. At this stage:</p> <ul style="list-style-type: none"> <li>• <u>only those proposals needing a greater level of assessment as identified in the previous phase</u>, are required to present the “<b>Sustainability Checklist and Report</b>” (<b>Checklist C</b>).</li> </ul> <p>After receiving all the documents, the “Checklist C” will be assessed and the MA should:</p> <ul style="list-style-type: none"> <li>• require a EAs consultation</li> <li>• prescribe mitigation measures or also reject the Project.</li> </ul>

## THE FIVE LEVELS OF ENVIRONMENTAL ATTENTION





## 6.2 Assessment tools

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In the light of the evaluation procedure illustrated above, the following assessment tools are therefore provided:

1. The **“Environmental box”**, required for all **“Concept Notes”** regardless of whether they are material or immaterial, and regardless of whether they belong to Priorities requiring a greater environmental attention.
2. The **“SCREENING CHECKLIST FOR CONCEPT NOTE” (Checklist A)** required only for those **“Concept Notes”** regarding the Programme Priorities with potential environmental effects and, if deemed appropriate, also for some proposals not included in those Priorities.
3. The **“EFFECTS CHECKLIST FOR FULL APPLICATION” (CHECKLIST B)** required only for those **“Full Application Form”** needing a greater level of assessment.
4. The **“SUSTAINABILITY CHECKLIST AND REPORT” (CHECKLIST C)** required only for those interventions with potential environmental effects after Checklist B.



## 1. Environmental box

- The environmental box is required for all proposals in the “Concept Note” phase.
- Please, write any additional information you deem appropriate.
- Where appropriate, reference may be made to information which is already contained in the “Concept Note” document.

QUESTIONS	
1. Describe in detail the type of intervention envisaged.	
2. Describe, if any, its possible negative effects (direct or indirect) on the environment.	
3. Describe possible environmental advantages deriving from the implementation of the intervention's proposal	

## 2 - Screening Checklist for CONCEPT NOTE (Checklist A)

- The Checklist A is required in the “Concept Note” phase only for those proposals regarding the Programme Priorities with potential environmental interactions (as identified in Chapter 5).
- Please, write your answers in the space provided near the questions and use more space if you need it.
- Please, write any additional information you deem appropriate.
- Where appropriate, reference may be made to information that is already contained in the intervention proposal.

QUESTIONS	Yes/No	DESCRIPTION
1. Does the proposed intervention pursue the realization of <b>material interventions</b> ?		<i>If yes, what?</i>
2. Does the proposed intervention take into account the principles of <b>environmental protection</b> and the protection of natural resources?		<i>If yes, in which way? What environmentally sensitive strategies are included in the activities, in the budget, etc.?</i>
3. Does the proposed intervention take into account the relevant <b>International, National and Regional Directives/laws/agreement/strategies</b> (with particular regard to environmental issues)?		<i>If yes, which one and how?</i>
4. Has the regional/local <b>environmental context</b> been analysed and the <b>interaction with the social, economic and cultural milieu</b> examined to see whether the pressure on natural resources could indirectly increase?		<i>If yes, in which way, and how? did the results obtained influence the project conception?</i>
5. Is there an effective contribution of the project in terms of <b>environmental improvement</b> (e.g. reduction in use of non-renewable energy resources, improvement of soil, air and water resource quality, enhancement of historical and cultural heritage)?		<i>If yes, in which way?</i>
6. Are the proposed intervention’s staff / partners and all parties concerned sensitised to <b>environmental problems</b> and to the direct or indirect effects on the environment?		<i>If yes, in which way?</i>
7. Will the proposed intervention help to <b>make the community aware of environmental issues</b> and to develop education in the environmental fields?		<i>If yes, in which way?</i>
8. Is an <b>examination of the environment effects planned</b> during the implementation of the proposed intervention?		<i>If yes, in which way? Which methods and measures? When?</i>



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<b>9.</b> Are there any <b>indicators/targets</b> for monitoring negative/positive effects?		<i>Which indicators/targets have been defined? How are these verified and communicated during the implementation of the project?</i>
<b>10.</b> Have the <b>costs</b> for the above-mentioned measures been adequately provided in the <b>budget plan</b> ?		<i>If yes, in which way?</i>
<b>ADDITIONAL INFORMATION</b>		



### 3 - Effects Checklist for FULL APPLICATION FORM (Checklist B)

- The Checklist B is required in the “Full Application Form” phase only for those proposals needing a greater level of environmental assessment.
- Please write your answers in the space provided near the questions and use more space if you need it.
- Please, write any additional information you deem appropriate.
- Where appropriate, reference may be made to information which is already contained in the intervention proposal.
- If an environmental/vulnerability report already exists, this can be enclosed.

SECTION 1	
General information	
Application Number:	
Proposal:	
Programme measure/priority:	
Application Type:	
Applicant:	
Date Application Valid:	
Indicative area's description:	
Indicative area's map:	
Area pictures:	
Description of the intervention:	

SECTION 2 Project location		
Indicate the intervention distance from:	Yes/No/ N.A.	DESCRIPTION (distance, direction, connection to project area and size of applicable category and other relevant criteria, etc.)
- densely populated area		
- cultural heritage site		
- natural protected area		
- wetlands		
- costal areas		
- marine areas		
- estuarines		
- mountain areas		
- buffer zone of natural protected area		
- special area for protection of biodiversity (including Natura 2000 sites in the EU)		
- vulnerable landscape area		

SECTION 3 Environmental main issues		
QUESTIONS	Yes/No	DESCRIPTION (If yes, in which way?)
1. There would be a change on environmental conditions?		
2. There would be new features out-of-scale in relation to the environmental context?		
3. Would the visual effect be unusual in the area?		
4. Would the effect extend over a large area?		
5. There would be potential transboundary impacts?		
6. Would many people be affected?		
7. Would many receptors of other types (fauna and flora, businesses, facilities) be affected?		
8. Would valuable features or resources be affected?		
9. Is there a risk that environmental standards will be breached?		
10. Is there a risk that protected sites, areas, features will be affected?		
11. Is there a high probability of the effect occurring?		
12. Would the effect continue for a long time?		
13. Would the effect be cumulative?		
14. Would the effect be direct rather than indirect?		
15. Would the effect be permanent rather than temporary?		
16. Would the impact be continuous rather than intermittent?		
17. If it is intermittent, would it be frequent rather than rare?		
18. Would the impact be irreversible?		
19. Would it be difficult to avoid, or reduce or repair or compensate the effect?		



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*Other comments/information*



## 4 - Sustainability Checklist and Report (Checklist C)

- The Checklist C is required only for those proposals which, after the “Full Application Form” phase, need a greater level of environmental assessment.
- Please write your answers in the space provided near the questions and use more space if you need it.
- Please, write any additional information you deem appropriate.
- Where appropriate, reference may be made to information which is already contained in the intervention proposal.
- If an environmental/vulnerability report already exists, this can be enclosed.

### SECTION 1

#### Information describing the project

Information	Details
Purpose and physical characteristics of the intervention	
Proposed access and transport arrangements	
Number of employees expected	
Land use requirements and other physical features of the project	
Production process and the operational features of the project	
Type and quantities of raw materials, energy and other resources consumed	
Residues and emissions by type, quantity, composition and strength	
Main alternative sites and alternative processes considered (with maps)	
Adoption of voluntary instruments of environmental management (e.g. UNI EN ISO 14001, EMAS)	

*Other comments/information*



<b>SECTION 2</b>	
<b>Information describing the site and its environment</b>	
<b>Physical features</b>	<b>Details</b>
Population – proximity and number	
Flora and fauna – in particular protected species and habitats	
Soil – agricultural quality, geology and geomorphology	
Water – aquifers, water courses and shorelines	
Air – climatic factors, air quality, etc.	
Architectural and historic heritage, archaeological sites and features	
Landscape and topography	
Recreational uses	
<b>Policy framework</b>	
<i>Information considered in this section should include all relevant statutory designations such as sites of special scientific interest, areas of outstanding natural beauty, national parks, green belts, scheduled ancient monuments and listed buildings, etc.</i>	
<i>Other comments/information</i>	

<b>SECTION 3</b>	
<b>Assessment of effects</b>	
<i>Including direct and indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project.</i>	
<b>Effects on human health, buildings and human artefacts</b>	<b>Details</b>
Change in population arising resulting from the development( e.g. number)	
Effects on local roads and transport	
Effects on buildings, architectural and historic heritage, archaeological feature and human artefacts	
<b>Effects on flora, fauna and geology</b>	
Loss of, and damage to, land and marine habitats, plants and animal species	
Loss of, and damage to, geological, paleontological and physiographic features	
Other ecological consequences	
<b>Effects on land</b>	
Physical effects of the development	
Effects of chemical emissions and deposits on site and surrounding land	
Visual and Landscape impacts	
<b>Effects on water</b>	
Indication of water supply source and likely efficient use of the resource	
Effects on drainage pattern in the area resulting from the development	
Changes to hydrographical characteristics	
Effects on coastal or estuarine characteristics	
Effects of pollutants, waste, etc. on water quality	
<b>Effects on energy</b>	
Indication of energy supply	
Indication of renewable energy supply possibly used	
<b>Effects on waste</b>	
Indication of waste typology to be produced	
Indication of forecast disposal methods and measures for the efficient management of waste generated	
<b>Effects on air and climate</b>	
Level and concentration of chemical emissions and their environmental effects	
Indication of measures for the containment and reduction of atmospheric emissions to be adopted	
Particulate matter	
Offensive odours	
Level of noise	
Any other climatic effect	
<b>Other indirect and secondary effects associated with the project</b>	
Effects resulting from traffic related to the development	
Effects arising from the extraction and consumption of materials, water, energy or other resources by the development	
Effects of other developments associated with the project	



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SECTION 4 Mitigating factors	
Information	Details
<i>Where significant adverse effects are identified, a description of the measures to be taken to avoid, reduce or remedy those effects is required</i>	
<input type="checkbox"/> <b>Site planning</b>	
<input type="checkbox"/> <b>Technical measures, for instance:</b> <ul style="list-style-type: none"><li>— Process selection</li><li>— Recycling</li><li>— Pollution control and treatment</li><li>— Containment</li></ul>	
<input type="checkbox"/> <b>Aesthetic and ecological measures, for instance:</b> <ul style="list-style-type: none"><li>— Mounding</li><li>— Design, colour, etc.</li><li>— Landscaping</li><li>— Tree planting</li><li>— Measures to preserve habitats</li><li>— Recording of archaeological sites</li><li>— Measures to safeguard historic buildings</li></ul>	

*Other comments/information*



## SECTION 5

### Risk of accidents and hazardous developments

#### Information

#### Details

When the proposed intervention involves materials that could be harmful to the environment in the event of an accident, this report should include an indication of the preventative measures that will be adopted so that such an occurrence is not likely to have a significant effect.

*Other comments /information*