Establishment of coastal setback:

An explanatory report on Article 8-2 of ICZM Protocol

Issues to be considered

PRIORITY ACTIONS PROGRAMME

The project is co-funded by the European Union, Instrument for Pre-Accession Assistance

Background

The SHAPE project "Shaping an Holistic Approach to Protect the Adriatic Environment: between the coast and sea" is an IPA Adriatic Cross Border Cooperation initiative. It aims at the sustainable development of the Adriatic region by strengthening the protection and enhancement of the marine and coastal environment through an integrated approach. SHAPE wishes to develop a multilevel and cross-sector governance system, able to ensure balance between coastal development and the need to protect the Adriatic Sea environment and its resources, and able to manage the existent conflicts among different uses. The main references of SHAPE are the Protocol on Integrated Coastal Zone Management in the Mediterranean and the Roadmap for Maritime Spatial Planning. Their applicability in the Adriatic region will be tested during the project.

The role of PAP/RAC as WP coordinator within the SHAPE project is to provide its expertise and know-how in bringing regional partners together for successful cross-national and cross-sectoral cooperation within the ICZM framework. In this respect and in accordance with the Work Package 3/Action 3.2, the PAP/RACs main task is to provide an in-depth explanatory report on the Article 8 of the ICZM Protocol addressed to the establishment and calculation of coastal setback zones. Furthermore, this explanatory analysis should be further used (Action3.2/Task 2) by each involved Partner (country or region) as a useful tool/guideline for preparing their reports. These reports should provide information on the prerequisites (geographical, social, institutional, legislative) for a successful implementation of the coastal setback. After finishing the reports, a critical review will be made in cooperation with PAP/RAC in order to accurately determine possible obstacles in the calculation and establishment processes of the coastal setback. The final requirement provided in the Task 3 refers only to Albania, the Italian regions and Slovenia. Those countries/regions should undertake the practical application of the coastal setback within their proposed pilot projects.

Proposed pilot projects

COUNTRY	PILOT PROJECT SITE
Albania	Pilot Action in **Narta** pilot area
Italy	**Veneto** - Pilot Action in the Natura 2000 coastal area of Cavallino-Treporti/Venice **Molise** - Demonstration action on conservation of coastal ecosystems and habitats **Emilia/Romagna** - Pilot Action on Sacca di Goro **Apulia** - Torre Guaceto marine protected area and the neighbouring costal area of the Brindisi port including the industrial area
Slovenia	Definition of a setback zone at the **national level**

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1. Introduction

1.1 The need for implementation of coastal setback zones

The Mediterranean basin, including the Adriatic region, represents a complex area, both from geo-ecological and socio-economic points of view and has been on an unsustainable development path for the past few decades due to numerous direct or indirect anthropogenic activities concentrated in its coastal areas. The Mediterranean coastline is 46,000 km long and includes different ecosystems and landscapes very often characterised by a high level of biodiversity and endemic species. From the morphological perspective the coastline is 54 % rocky and 46% of sedimentary types. The latter is characterised by important yet fragile ecosystems such as beaches, dunes, deltas and lagoons, highly exposed to coastal processes, i.e. erosion and extreme storms, or consequences of climate changes such as sea-level rise (UNEP/MAP/PAP, 2001). Although at a smaller geographical scale, the Adriatic region is also defined by great coastline diversity, from both morphological and ecological aspects. The Western, Italian coastline is mainly low and towards north-west merges into the marshes and lagoons, i.e. coastal forms highly influenced by the river Po. The Northern landscape is rockier and steeper, characterised by karst forms which account for a considerable portion of the Adriatic littoral. A fringe of over thousand islands extends from the Istrian peninsula to Montenegro where coastal rocky mountains prevail. On the far South-eastern end, the Albanian coastal zone is mainly shaped by vertical cliffs, bays and wetland areas.

From the socio-economic perspective the Mediterranean coast primarily represents a driving force for development activities of each Mediterranean country, and consequently endures various anthropogenic pressures. The number of inhabitants along the Mediterranean coastline has reached 154 million, which is almost one third of the total population of the Mediterranean countries, and this number tends to increase by around 20% in the next 20 years. Besides this, the number of coastal cities of more than 10,000 inhabitants has doubled during the second half of the twentieth century, while additional pressures such as tourism and agriculture development tend to create conflicts over the use of renewable and non renewable coastal resources. In this context, the Adriatic coastline is also faced with numerous pressures within the coastal fringe. While in the past the coastal degradation was mainly caused by land reclamation and agriculture, the present threats mostly derive from noticeable coastal urbanisation, industrial pollution, tourism, natural resource exploitation and, nowadays particularly pronounced, climate change impacts (sea-level rise, wave variability, storm surges, etc.).

A problem relevant to anthropogenic activities common to all Adriatic countries regards mainly a widespread urbanisation (littoralisation) in direct proximity to the sea. This issue does not only refer to the increase of the human population in coastal urbanised areas but also to a significant expansion of development activities, such as tourism and coastal artificialisation (e.g. public infrastructure facilities). In addition, this phenomenon is especially pronounced in countries with a shorter coastline length, such as Slovenia and Montenegro, which are even more exposed to pressures of littoralisation on a smaller geographical scale (UNEP/MAP/Plan Bleu, 2005; 2009). In this regard, to ensure future coastal sustainability, the Mediterranean countries have agreed to develop a complex, multidisciplinary, integrated and iterative process which should be gradually established, adapted and continuously improved. Thus, the fundamental objectives of Integrated Coastal Zone Management have to: (1) secure and maintain environmental flows and ecosystems functions, (2) provide applicable methods aimed at preserving human settlements from negative effects of coastal processes (e.g. extreme events), and (3) protect coastal resources and public accessibility to the shore (UNEP/MAP/Plan Bleu, 2005; 2009). Moreover, one of the latest successes in ICZM in the Mediterranean is the Protocol on the ICZM, which was adopted in January 2008 and entered into force in March 2011.

Identification and establishment of coastal setback zones is considered as a planning and operational tool fully fitting the idea of ICZM. The Article 8 of the Protocol on ICZM clearly stipulates the establishment of a 100 metre coastal setback zone as the agreed principle (measure) that plays an important role in the preservation of natural habitats, landscapes, natural resources and ecosystems. Also, this rather narrow zone that is in contact with the sea is crucial for the prevention and/or reduction of the effects of natural hazards and in particular of the climate change, which can be induced by natural or human activities. Moreover, its definition should be based on an integrated approach taking into account various physical coastal processes, ecosystem services, coastal resistance and exposure with regard to development activities, as well as settlements and infrastructure located along the coast.

Although the Mediterranean area plays a pivotal role in the definition of regional strategies for ICZM, due to the complexity of legal-administrative frameworks and the geographical heterogeneity, a successful implementation of Protocol on ICZM, particularly its provisions addressed to coastal setback (Article 8), faces many challenges and undeniably represents a *flagship provision* often subject to heated debate due to its implementation difficulties and political sensitivities (Rochette *et al., 2010; Sanò et al.*, 2011; Shipman and Stojanovic, 2007).

Unique legal instrument for the Mediterranean

In that sense, this report tends to shed light on the Article 8 and the implications of its implementation, as well as its adaptation in the traditional sphere of domestic law of the Contracting Parties. To this aim, the emphasis is given to:

(i) explanatory review of the legal scope and application of the Article 8-2 within international treaties,

(ii) identification of adaptation processes provided within the clauses 8-2b(1) and 8-2b(2) comparing different experiences from the Mediterranean countries, and

(iii) draft approach for the identification and calculation of the setback zones in practice.

All of the above aims at assisting the Shape partners in the implementation of activities within the proposed pilot areas.

1.2 The main objectives of Article 8 and its role in the establishment of the coastal setback

According to the Article 8 of the ICZM Protocol, the Parties:
(*a) Shall establish in coastal zones, as from the highest winter waterline, a zone where construction is not allowed. Taking into account, inter alia, the areas directly and negatively affected by climate change and natural risks, this zone may not be less than 100 metres in width, subject to the provisions of subparagraph (b) below. Stricter national measures determining this width shall continue to apply.*

(b) May adapt, in a manner consistent with the objectives and principles of this Protocol, the provisions mentioned above:

1) for projects of public interest;

2) in areas having particular geographical or other local constraints, especially related to population density or social needs, where individual housing, urbanisation or development are provided for by national legal instruments.

(c) Shall notify to the Organization their national legal instruments providing for the above adaptations.

Although the issue of setback zones is not a new term and many Mediterranean countries already have coastal setback zones integrated in their coastal legislations, the new approach proposed within the ICZM Protocol marks a shift away from the traditional approach by mainstreaming into fields that have, so far, been governed by domestic law alone (e.g.. regional planning). Thus, aware of the implementation difficulties and political sensitivities of setback zone establishment in the Mediterranean countries, the main goal of the Article 8 is to establish a set of minimum requirements and common criteria for the establishment of such zones while, at the same time, complying with the "*common framework for the integrated management of coastal* zones[1]*".*

In general, defining the coastal setback zones is proving to be a growing challenge, so its implementation, should be balanced in order to satisfy different policy objectives:

1) To set common rules and criteria

The adaptation of domestic laws in terms of setting common rules is considered as a direct result of regional cooperation largely supported by international legal instruments. For instance, the well known Agenda 21 from the Rio Conference (1992) promotes the idea of ICZM, especially within a regional framework[2] while the Programme of Action adopted during the Johannesburg Summit (2002) encouraged the development of "*regional programmes of action*".

2) To protect natural and landscape heritage

This objective is well entrenched in the previous conventions on the protection of the natural and landscape heritage of the Mediterranean. Article 4-3-e of the Barcelona Convention binds the States to "*promote the integrated management of the coastal zones, taking into account the protection of areas of ecological and landscape interest and the rational use of natural resources".* Following this notion the ICZM Protocol recognised Mediterranean coastal zones as "*common natural heritage (…) that must be*

[1] Article 1.

[2] Chapter 17: Protection of the Oceans, all Kinds of Seas, Including Enclosed and Semi-enclosed Seas, and Coastal Areas and the Protection, Rational Use and Development of their Living Resources, 17.10.

preserved" and called the Parties to guarantee the protection of the natural and landscape heritage[3]. Moreover, the protection of natural and landscape heritage plays an important role within numerous international treaties. For instance, the United Nations Convention on the Law of the Sea (UNCLOS) obliges the Parties to protect the marine environment[4] supporting the regional cooperation, especially in the case of enclosed or semi-enclosed seas[5]. In the context of establishment of the coastal setback, the Article 8, in its introduction, emphasises the importance of preservation of "*coastal natural habitats, landscapes, natural resources and ecosystems*" and, therefore, coastal setback may be considered as part of a broader objective of protecting the Mediterranean natural and landscape heritage. Regarding the fact that the coastal setback refers to the protection of coastal ecosystems, habitats and overall biodiversity, its implementation should be considered in accordance with the Ramsar Convention on Wetlands of International Importance, the Convention on Biological Diversity, the Jakarta Mandate and the European Landscape Convention.

3) To prevent natural risks and adapt to climate change

Nowadays, coastal protection from natural risks and adaptation to the climate change is becoming an increasingly important issue, particularly for countries with sensitive low-lying coastal areas. The impacts of the climate change, such as sea-level rise and climatic variability (e.g. frequent occurrence of extreme events), are projected to pose increasing threats to coastal areas from both socio-economic and ecological points of view. On a global scale, the sea-level rise has accelerated from 1.7mm/year to 3 mm/year over the past century, and one of the possible scenarios indicates a sea-level rise of 59 cm in the next hundred years. Beside this, coastal erosion, periodic or permanent inundation, increased coastal storm flooding and salinisation of surface and ground-waters, as major threats to low-lying (tidal) types of coastline, are being recognised as direct/indirect consequences of the sea-level rise (IPPC, 2007).


Coastal erosion is an important criterion for the definition of the setback. Property should be placed within the erosion-safe zone to reduce damage.

Undoubtedly, the first hundred metres of the coastal zones are considered as pronouncedly vulnerable to the potential impact of the climate change, especially the areas with the lowest adaptability including the coastal plains, deltas, open sandy beaches, coastal wetlands or estuaries. Therefore, an interdisciplinary approach should be used when applying different strategies to cope with consequences of the climate

[3] Articles 5(b) and 5(d), for instance.

[4] UNCLOS, Article 192.

[5] UNCLOS, Article 123.

change and be performed on international, national and regional/local levels, considering:

(i) mitigation of the consequences of the sea-level rise and extreme storms, and developing innovative designs, and

(ii) retreating the planning towards the hinterland (Sanò *et al.*, 2009).

The establishment of the coastal setback has proved to be a powerful tool for the adaptation to the climate change impacts in coastal zones. Policy makers and coastal managers should develop appropriate strategies based on combining climate change drivers, the sensitivity parameters of the particular coastline and the adaptive capacity of coastal community in order to predict and mitigate the further harmful consequences of the climate change to fragile coastal regions.

Extreme events related to the climate change can cause considerable damage to infrastructure. However, human lives are also vulnerable. Defining of the coastal setback where construction is not allowed would reduce vulnerability.

The links between the common objectives and the main role of setback zones are presented in Table 1.

Table 1. The role of coastal setback with regard to common objectives (From: Rochette *et al.*, 2010)

Common objectives	The role of setback zone
Biodiversity protection	• Preventing construction on the land or sea interface and ensuring the protection of coastal species and ecosystems (dunes, wetlands, sea-grass meadows and coastal forests)
Ecosystem services maintenance	• Preserving of wetlands and estuaries by maintaining the water purification functions • Reducing the natural erosion of coastal systems by coastal artificialisation • Facilitating the public access to an area larger than the public maritime domain • Maintaining the recreational services by preventing excessive coastal artificialisation
Adaptation of coastal zones to climate change	• Protecting human lives, settlements and coastal landscape from the risks of extreme events and chronic coastal processes

1.3 Coastal setback within the European and Mediterranean legal frameworks

Geographically, the European Union covers half of the Mediterranean coastal zone and, consequently, has the greatest share in shaping the Mediterranean coastal policy. Furthermore, over the past 10-15 years the EU has developed a large set of requirements in form of Recommendations and Directives more or less related to the principles of ICZM. These requirements cover a majority of environmental issues important for coastal zone management: habitats and landscapes, water and soil, ocean and seas strategies, as well as other affiliated information. According to Sanò *et al.*, (2009) a preliminary analysis of the most significant requirements showed that only the Mediterranean ICZM Protocol makes a clear reference to the establishment of the coastal setback in its Article 8 (Table 2). It should be noted that the EU has also ratified the ICZM Protocol and it therefore makes part of the *acquis*.

Table 2. European and Mediterranean legal provisions for ICZM and their relation with coastal setbacks (From: Sanò *et al*., 2009).

Name	Number	Sector	Level	Year of issue	Reference to the use of coastal setback
Habitat Directive	92/43/ECC	Nature conservation	European	1993	No
European Landscape Convention	ETS 176	Landscape	European	2000	No
Water Framework Directive	2000/60/EC	Water use	European	2002	No
Recommendation on ICZM	413/2002/EC	Inter sectoral	European	2002	No
Soil Directive (proposal)	COM(2006)232 final	Soil protection	European	Not yet approved	No
Flood Risk Directive	2007/60/EC	Risk management	European	2007	No
Marine Strategy Framework Directive	P6_TA(2007)0595	Marine waters	European	2007	No
INSPIRE Directive	2007/2/EC	Spatial data	European	2007	No
ICZM Protocol	N/A	Inter sectoral	Mediterranean	2008	Yes

2. The legal scope of the Article 8

According to Rochette *et al.* (2010), the legal scope of any provision traditionally underlines a distinction between the obligation to use best efforts: usually accepted as an obligation under which "*debtor – the State in international law – must employ its best efforts to achieve a specific goal*" and obligation to produce results under which "*debtor may accept liability for achieving a specific goal*". These fundamental obligations are well entrenched in the Article 8 by highlighting that Parties "*shall establish in coastal zones (…) a zone where construction is not allowed* ". However, according to the principle *Pacta sunt servanada* of the Vienna Convention of the Law of Treaties, these obligations should be applied in a "*good faith*" and should not exceed their legal scope. Furthermore, the 2a paragraph emphasises that stricter national measures in determining the width of the setback zone "*shall continue to apply*" Therefore, although the Protocol aims at setting

minimum principles for the protection of the coastal zone, the Parties have legal rights to establish stricter rules in accordance to the Protocol main principles and objectives.

2.1. The establishment of the 100 metre coastal setback zone: past and present experiences

The establishment of the coastal setback is considered as an effective tool that is applied as a part of the coastal policies of a majority of the Mediterranean countries and worldwide, particularly in the countries with (more or less) established coastal management systems (e.g. the United States, Australia, the Netherlands, etc.). Although different methodologies are used for its successful establishment, two main approaches can be distinguished:

a) Qualitative approach

Refers to adapting building regulations to the specific circumstances of a coastal fringe. In California (US), the established setback line is not uniform, but is calculated according to "*the length of life of the structure and the time path of exposure to coastal hazards (erosion and flooding)"* (Hanak and Moreno, 2008).

In the paper prepared in 2007, "Protecting Coastal Zones in the Mediterranean - An Economic and Regulatory Analysis", Anil Markandya looks at coastal resources from two points: the growing pressures such as 'artificialisation', and the conservation of natural habitats standpoints. In general, he suggests that the authorities should seek to use fiscal instruments where possible when discussing the setback proposals with the landowners and decision makers.

In particular he focuses on the very narrow belt along the sea where he compares the costs and benefits between construction and conservation of this area. He concludes that the benefits of non development, especially when construction is clustered, i.e. leaving open and protected areas in between the built ones, are much higher than in the case of linear construction along the coast.

Living next to the sea is a luxury but….

As one possible regulatory tool he proposes transferable development rights. An authority that restricted development in one area would compensate those who lost value as a result of such a restriction by allocating rights in other areas. Such systems have been an effective planning tool in municipalities and districts in the US and elsewhere. Alternatively, authorities that were given coastal development rights could share the benefits with those where the rights were denied. Such a system applies in Italy (the so-called "perequazione urbanistica"). The system has allowed areas to be protected by arranging the transfer of benefits from other areas since as long ago as the early 1980s (see Box below).

Another important instrument that can protect against coastal development is land taxation. It may be possible to tax increased land values when development rights are accorded for coastal areas and use the revenues for the protection of other areas, including transfers to these areas to make up for restricting development. This serves a similar purpose as the "perequazione urbanistica" in Italy, except it uses a tax instrument (Markandya, 2007).

"Perequazione urbanistica" in Italy

The idea behind the "perequazione urbanistica" is to share the benefits and costs of changes in land-use status across communities and individuals. So, if one community or person is given the rights to develop land from agricultural or recreational use to use for dwellings, and another community is restricted not to develop land in this way, the two communities may share the benefits from the increased development.

The scheme works by allocating to *all* residents in a given area the right to develop *a part* of their land. Then planning laws are introduced which in effect prohibit the exercise of this right in some places. These laws also define certain areas of land for public use – roads, parks, etc.

Those who cannot exercise their right by virtue of the planning regulations can sell these rights to others so that they can develop more of their land than their right allocation allows. Where the state needs to acquire land for public use, it does so at the agricultural value of that land, but this still allows the owner to sell the rights to development to another person who needs more than he or she has. In this way, no one suffers from a planning restriction.

The scheme has been applied in Italy specially to acquire land for public services with resorting to compulsory purchase under an Eminent Domain law or its equivalent. But, it has also been applied to ecologically-oriented uses. An example is the case of Cantù (near Como) where it has been used to stop the urbanisation of some Greenfield areas. Another is the case of Chiavari (near Genoa) where further development of the hills above the resort town have been deprived of development rights but these can be exercised elsewhere (Markandya, 2007).

b) Quantitative approach

This refers to the establishment of a setback with a uniformly determined width for the whole of the national coastline. This solution is widely accepted among the Mediterranean countries.

A recently launched project “ICZM Stock-take for the Mediterranean and Black Seas” in the framework of the EU FP7 Pegaso project has provided a set of preliminary[6] results addressed to current legislative, institutional, policy and financial framework for ICZM governance in both the Mediterranean and the Black Sea regions. One of the highlighted questions referred to the identification of the current state and the future implementation of the Article 8 of the ICZM Protocol in the Contracting Parties (Question 8). The stock-take preliminary results showed that 48% or 12 countries have established a zone of not less than 100 meters where construction is not allowed, 16% or 4 countries reported a negative answer, 24% or 6 countries are in the phase of establishing such a zone, 4% or 1 country provided a multiple answer, while answers for 8 % or 2 countries have not yet been received (Figure 1.)

[6] According to a decision of the PAP/RAC Focal Points at their meeting in Dubrovnik (October 18-19, 2011) the preliminary results are currently under revision by the countries.

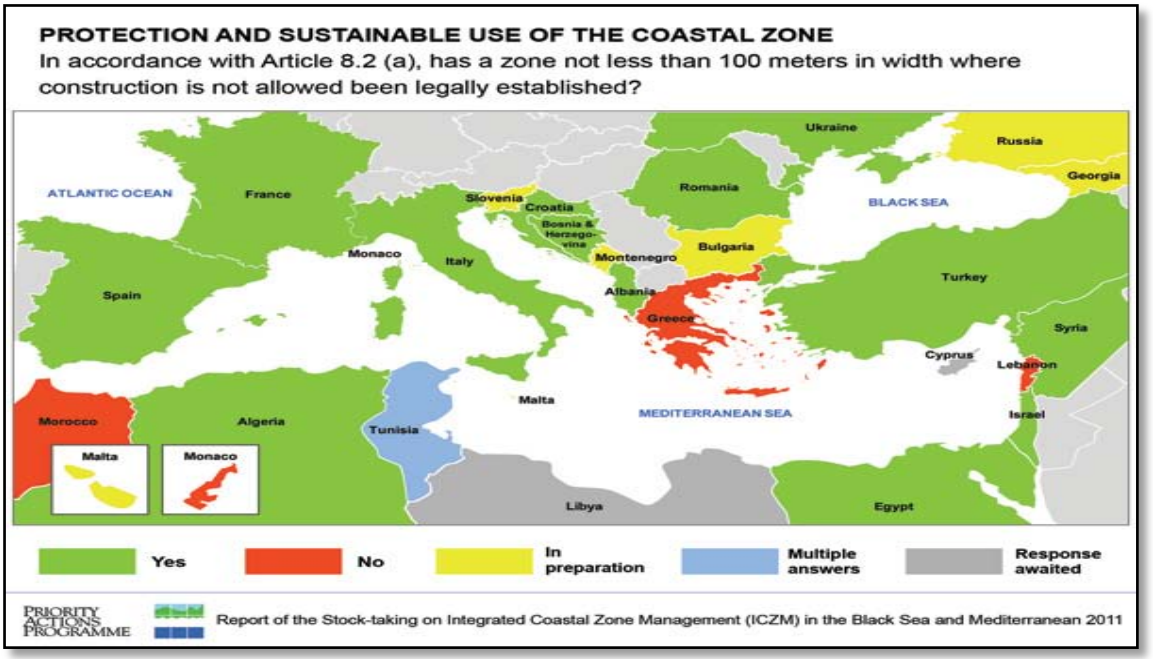


Figure 1. Preliminary results from "ICZM stock-take for the Mediterranean & Black Seas". Question No.8 (PAP/RAC,2011).

In order to provide a more comprehensive picture with regard to the coastal setback legislation and policy, examples from several Mediterranean countries are given below, emphasising those involved in the SHAPE project.

Algeria

The restrictions concerning the zone *non aedificandi* covering 300 m (Art. 18 No. 02-02 of February 5, 2002 relative to the coastal protection and valorisation) – Without prejudice to legal clauses in force related to the constraints of *non aedificandi* and subject to the activities and services for which the immediate proximity to the sea is a necessity, these constraints could be extended to 300 m because of the sensitivity of the coastal environment.

France

In France in general, the principle of protecting a continuous 100 metre strip was already proclaimed in the National Planning Directive (1979) and clarified by legislative confirmation by the Law of 03.01.1986 commonly known as the *Loi Littoral* in which numerous exceptions that existed under the previous regulation have been removed. However, the Article L 146-4-III of the French Urban Planning Code clearly states that "*outside urban areas, buildings and facilities are prohibited within a 100 metre coastal strip (…). A zoning and land use scheme may extend the coastal setback (…) to more than 100 metres when justified by the sensitivity of the environment or by coastal erosion*". Those development bans do not include "*buildings and facilities necessary for public service or economic activities requiring proximity to the sea*" such as aquaculture, naval repairs, etc.

Italy

The concept of Maritime Public Domain exists. The Italian Civil Code (Article 822) clearly stipulates that the shoreline and beaches are considered as a part of the Maritime Domain owned by the State where their upper limit is defined by coastal dynamic processes. Although the 1982 law (979/1982) has clearly underlined a "*plan for coastal*

and marine defence" as a national instrument for the protection of coastal and marine systems it had never been implemented. However, the so-called "*decreto Galasso*" (L. 312/1985), identifies the 300 m distance from the coastline as the stretch of the coast with special requirements and limitations for landscape protection, and represents a unique legal instrument recognised at the national level. Additional legal instruments and tools are defined and implemented at regional and local levels (e.g. Regional Coastal Plans, Maritime Domain Use Plans), under the jurisdiction of the national laws. A recent example of regional policy is the Landscape Plan for the Sardinia Region which bans construction works in direct proximity of the coastline.

Spain

The Spanish Coastal Law of 1988 (Law 22/1988) defines a setback of at least 100 m behind the limit of the Maritime-Terrestrial Public Domain (MTPD) (or 20 m in urban areas developed before 1988), plus other specific regulations to protect the coastline and to grant public use of the shore. The MTPD is defined as "*landward most distant location reached by the most extreme waves during the extreme storms of the historical record"* (Barragán-Muñoz, 2003) and until 2009 has covered 87.2% of the Spanish coastline (Sanò *et al.,* 2010). This approach, based on physical processes, has shown numerous limitations since much of the coast has been urbanised. This has forced the Spanish Government to adopt a new strategy in 2008, to recover the land that has been illegally developed within this zone (Sanò *et al.*, 2011).

In addition to the Italian regions facing the Adriatic Sea the following countries are involved in the SHAPE project:

Albania

In accordance with the Integrated Coastal Zone Management Plan, as well as the Decision of the Territory Planning Council headed by the Prime-Minister, construction works are not allowed in an area of 100 metres from the coastline.

Croatia

The Physical Planning and Construction Act (2007) defines "protected coastal area[7] (PCA)", as a zone that "*encompasses all islands, the continental belt 1,000 metres in width from the coastline and the sea belt 300 metres in width from the coastline"*. Furthermore, the Acts 50 and 51 stipulate that new construction works are banned within a belt from 50 (islands) to 100 metres from the coastline taking into account several exceptions: "*construction works for utility infrastructure and underground power lines, accompanying facilities used for hospitality and catering and tourism purposes, construction works which by nature must be located on the coast (shipyards, ports etc.) and for development of public areas*".

Montenegro

The Act on Physical Planning and Construction (51/08) gives no specific provisions to define the conditions and criteria for the planning of the coastal setback zone. No restriction are defined in accordance to the Protocol. However, Articles 83, 81 and 86 of the Ordinance on Detailed Contents and Format of Planning Documents (24/10) oblige the establishment of the 100 meters belt where no construction is allowed according to the State and regional spatial plans of the coastal zone.

[7] Article 49.

Slovenia

The Water Act (O.J. 67/2002, 57/2008) in its Article 29, establishes a 25-metre strip landward from the highest waterline where construction is allowed only for public projects such as infrastructure. The non-building zones, within 25 and 100m, are defined by spatial plans. They integrate requirements related to the protection of the coastal area i.e. prohibiting construction required by other sectoral laws (nature protection, protection of cultural heritage, agricultural land protection, forestry, etc.). Construction within that zones is forbidden. It can therefore be concluded that construction within the 100m zone is not allowed, with exceptions for projects of public interest.

2.2. Specific consequences for the Mediterranean EU Member States

From the European Union perspective, the ICZM Protocol is considered as an international (*mixed*) agreement where both the Member States and the EU have a common obligation to share competences for its implementation. This is in accordance with the Treaty of the Functioning of the European Union (Article 216) which states that international agreements "*concluded by the Union are binding upon the institutions of the Union and on its Member States*. Moreover, according to the Court of Justice of the European Communities (CJEC) the provisions of an international agreement create an integral element of the Community legal order as soon as the agreement enters into force[8] and "*have the same status in the Community legal order as purely Community agreements*[9]".

To clarify the above, two facts must be considered. First, within the EU standards, an international treaty takes precedence over a secondary Community law such as regulations, directives and decisions. Second, the EU does not necessarily need to adopt an instrument to transpose international agreements into Community law, at least where the EU competence is concerned. From this perspective, it means that if a Mediterranean EU Member State or other Contracting Party of the Protocol fails to respect the provisions of the Protocol, the Commission may, "*on its own initiative or by declaring admissible a complaint brought by an individual, initiate proceedings for failure to fulfil an obligation against the State in question*[10] *or even for non-implementation of judgments for failure to fulfil obligations, and may then impose penalty payments*[11]". This means that in the case of the failure of the establishment of coastal setbacks within reasonable time may result with the launching proceeding by the European Commission "*for non-compliance with Community law, even in the absence of EU measures to transpose the provisions of the Protocol*" (Rochette *et al.,* 2010).

Several Adriatic countries are in the accession process to the EU. Therefore, they should transpose the Protocol requirements, including the definition of the coastal setback zone, into their national legislation in order to comply with these provisions which are considered as part of the EU *acquis*.

[8] CJEC, 30 April 1974, R. & V. Haegeman v Belgian State, Case 181/73; CJEC, 30 September 1987, Demirel, Case 12/86.

[9] CJEC, 19 March 2002, Commission v Ireland, Case C-13/00.

[10] Article 256, TFEU.

[11] Article 260, TFEU.

2.3. Activities excluded from jurisdiction of the Article 8

Issues of national security, defence activities and facilities within coastal areas are clearly stipulated in the Article 4.4 (Preservation of rights) of the ICZM Protocol: "*nothing in this Protocol shall prejudice national security and defence activities and facilities... such activities and facilities should be operated or established, so far as is reasonable and practicable, in a manner consistent with this Protocol"*.

In other words, all conducted activities and established facilities addressed to national defence have full right to be established within the 100 metre strip and do not fall under the scope of the Article 8. In addition, it is necessary for the Parties to enact a specific national legal instrument regarding this issue. However, a majority of the Mediterranean countries have well established legislations and specifications for national defence and security activities within the 100 m strip and grant them special exemption (Rochette *et al.,* 2010).

3. Adaptation to the principle

The Article 8-2-b clearly states that Parties*: "May adapt, the implementation of the setback zone provision, in a manner consistent with the objectives and principles of this Protocol."*

To understand the principle of coastal setback provided in the Article 8-2-b it seems necessary to point out that the Article 8 is completely *subordinated* to the objectives and principals set out in Article 5 (Objectives of ICZM) and Article 6 (General Principles of ICZM) and therefore all Parties have a fundamental task to follow those provisions during the whole process of establishment (adaptation) of the coastal setback zones.

Before starting an analysis of the provision 8-2-b and "adaptation clauses", a certain consideration should be given to the provision 8-2-c addressing the relationship between national legal instruments and adaptation processes. The Article 8-2-c stipulates that the adaptation of the setback zone, including its width, must be ruled by "*national legal interest*" and not delegated to inferior levels of administration, region or sub-region. In this context, the "*national legal instruments*" refers to an act, at the national level, with legislative or regulatory power, which is enforceable and binding for the administration, local authorities and citizens. Moreover, the Protocol fully agrees that the idea of ultimate building ban inside the 100 m coastal strip is unrealistic, and in this respect, does not require any systematic expropriation of constructions that already exist. On the other hand, the Protocol does not specify the cases of non-application of the coastal setback zone in the already built-up areas. In that sense, the successful implementation of the Article 8 requires a considerable level of flexibility confirmed by adding the "adaptation clauses" 8-2b(1) and 8-2b(2), respectively, where Parties:

"May adapt (the implementation of the setback zone provision), in a manner consistent with the objectives and principles of this Protocol...:
1) for projects of public interest;
2) in areas having particular geographical or other local constraints, especially related to population density or social needs, where individual housing, urbanisation or development are provided for by national legal instruments.

3.1 "Adaptation clauses"- the real meaning?

Serious concerns have been focused on the misunderstanding of the term "adaptation", especially in the context within the framework of environmental law (Scovazzi, 2010). In a broader sense, this can be easily interpreted in a way that "adaptations" may be used as a tool to reduce the width of the setback zone. Anyhow, the Parties have to establish the 100 m zone as a specific area where further planning precautions (location of the planned urbanisation, density of the existing construction or specific site configuration) will be guaranteed in a manner consistent with the Articles 5 and 6 of the Protocol. In France, for instance, the non-application of the principle in an already urbanised area within the 100 metre strip does not authorise future vast property developments but allows "*limited extension of urbanisation*[1]", which then depends on different parameters and factors such as location of the planned urbanisation, density of the existing construction or specific site configuration.

The above mentioned precautions used as a tool should enable and guarantee additional protection of the 100-metre strip over and above the potential applicability of the principle of the setback zone separately. In this respect, the term "adaptation" could be used not only to reduce (e.g. small islands) but also to extend (e.g. coastal plains greatly exposed to natural risks) the 100-metre coastal setback strip.

Fundamental requirement:
Exemptions to the coastal setback zones rules shall comply with the Articles 5 and 6 of the Protocol, i.e. shall be consistent with the principles and objectives of ICZM.

3.2 Adaptation clause 8-2b(1) "projects of public interest"

In general, the notion of "*projects of public interest*" implies the ensuring of social and/or economic benefits for the community, and strictly excludes any kind of actions guided in the sole interest of an individual or a group of individuals. Although the idea of "*projects of public interest*" is commonly associated with the term "*national interest*", the Protocol does not call for this concept, and in that sense the adaptation of the clause of the Article 8-2-b doesn't refer strictly to State-operated projects (Sanò *et al*, 2010). In other words, this Article allows the possibilities that regional or local public interest projects may be undertaken within the coastal setback, but requires enacting and regulating the adaptations in correspondence to "*national legal instruments*" on the State level. Further, such projects must comply with the objectives and principles of the Protocol by taking in consideration their conformity with "*rational planning of activities*" and "*ecosystem approach to coastal planning*[12]". In addition, they should be provided as a result of strategic formulation of land-use strategies, plans and programmes covering the urban development together with socio-economic activities and other relevant policies[13]. In any case, adequate risk assessment methodology for coastal zone is required at each level of the decision–making process. In this respect, to envisage and avoid any harmful consequences of coastal erosion or overwhelming the carrying capacities in coastal areas the Article 19 stipulates :

"...the Parties shall ensure that the process and related studies of environmental impact assessment for public and private projects likely to have significant environmental

[12] Article 6(c).

[13] Article 6(f).

effects on the coastal zones, and in particular their ecosystems, take into consideration the specific sensitivity of the environment and the inter-relationships between the marine and terrestrial parts of the coastal zone"

Emphasis should also be placed on distinguishing the terms "*projects of public interest*" stated in the aforementioned article and the "*public services" ("....requiring, in terms of use and location, the immediate proximity of the sea*") highlighted in Article 6 (g). Location problems of any kind of "public services" must be separated from the "adaptation projects of public interest" due to the fact that the former, after being authorised by relevant administration, can be established inside the proclaimed coastal setback zone satisfying the following conditions:

- To be motivated by an essential need to be near the coastline, and
- To be assessed beforehand in terms of its effect on the coastal environment.

3.2.1 *Projects of public interest within* EU environmental legal instruments

Table 2. in Chapter 1.3 shows that except for the ICZM Protocol none of the European legislative frameworks explicitly mentions the coastal setback zone. Nevertheless, several legal instruments for environmental protection contain legal provisions to allow construction of 'projects of public interest' within a 100-metre coastal strip.

For instance, the Habitat Directive Guidance document on Article 6-4[14]" stipulates: *"...if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.* Although "*imperative reason of overriding public interest"* is not precisely defined the explanation can be found in further text where *"human health, public safety and beneficial consequences of primary importance for the environment"* are mentioned as examples of such imperative reasons of overriding public interests. Beside this, it seems obvious that only public interests, supported both, by public or private bodies, may provide equilibrium against the conservation aims of the directive and therefore projects conducted within interest of companies or individuals would not be considered to be covered. In addition, same Guideline states that it is hard to consider that the *"imperative reasons of overriding public interest, including those of social and economic nature refer to situations where plans or projects envisaged prove to be indispensable:*

- *within the framework of actions or policies aiming to protect fundamental values for the citizens' life (health, safety, environment);*
- *within the framework of fundamental policies for the State and the Society;*
- *within the framework of carrying out activities of economic or social nature, fulfilling specific obligations of public service".*

[14] Guidance document on Article 6(4) of the "Habitats Directive" 92/43/EEC, January 2007, (From: http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance_art6_4_en.pdf)

3.2.2. Projects of public interest within Mediterranean national legislations

In most cases the national legislations of the Mediterranean countries show considerable differences with regard to the implementation of setback zones, and rarely distinguish economic activities from public services or development of projects of public interest, although cases such as Spain and France show interesting examples of their adaptation.

In Spain, according to the Law 22/1988; Article 25(2), public services and activities whose location requires direct proximity to the sea are permitted within the 100 m of the coastal strip. The exceptions are mainly addressed to activities and facilities granted by the government for specific use and purpose such as construction or building of extensions of high-traffic roads or electric power plants[15]. Beside this, housing projects and industrial facilities are also allowed along the coast taking into account the following exceptions:

- Located outside the coastal wetlands and specially protected areas,
- Do not require immediate proximity to the sea, and
- Considered as "of *exceptional importance*" with "*specific economic reasons*".

Similarly, France also grants a general exception from the building ban within a 100 m strip for public services and activities that require direct vicinity to the sea, but in this case, they must be previously presented to public inquiry[16]. Moreover, the *Code* also stipulates that actions such as construction of new roads, works to ensure maritime and air safety, national defence and civil security, as well as those related to the maintenance of airports and public ports (with the exception of marinas) are not subject to the need for public inquiry when their location is defined as *imperative technical necessity.* This provision must be observed separately from the stipulation of the Article 4 of the ICZM Protocol due to its much wider scope. Other examples from several Mediterranean countries can be seen in Table 3.

Table 3. National legislations in relation to '*projects of public interest'*

	Legal provision	Year of issue	Description of provision	Permitted facilities
Turkey	Coastal Law 3621/3830	1990	Facilities aimed at the protection of the shoreline or the use of the coast for the public interest may be developed in the "shoreline buffer zone" within 100 metres in accordance with legal permits issued by land-use planning authorities.	Piers, ports, harbours, berthing structures, quays, breakwaters, bridges, seawalls, lighthouses, boat lifts, dry berths and storage facilities, salt production plants, fishery installations, treatment plants and pumping stations, etc.

[15] Article 25(3).

[16] Urban Planning Code, Article 146(4)(III) para. 2.

Algeria	Law 2002-02, Article 16.	2002	Adaptation allowed from min. 100 to max. 300 metres of the coastal setback zone in the interest of activities requiring immediate proximity to the sea. Differences between activities related or not to a public interest are not clarified.	Roads in the coastal zone where they are normally prohibited (within an 800 metre strip from the seashore).
Morocco	Moroccan Draft Law		As exemption, Moroccan Draft Law on coastal management permits "building projects of guaranteed economic interest" within a 100 m coastal strip.	
Greece	Act n°2971/2001,	2001	Provides constructions of environmental and public/cultural interest between 15 and 50 metres of the coastal setback zone.	

Pay particular considerations to:

1. **The definition of a 'project of public interest' in respective countries. Is there a definition provided? Do those projects really comply with the Protocol requirements? Can the Spanish and the French cases (see above) be regarded as such?**
2. **The types of 'projects of public interest' that can be granted exception for building ban within a 100m coastal strip while, at the same time, being in conformity with the Articles 5 and 6.**

3.3. Adaptation clause 8-2b(2) "geographical or local constraints"

The second "*adaptation clause*" provides for adapting the principle of a 100m setback zone: "*in areas having particular geographical or other local constraints, especially related to population density or social needs, where individual housing, urbanisation or development are provided for by national legal instruments".*

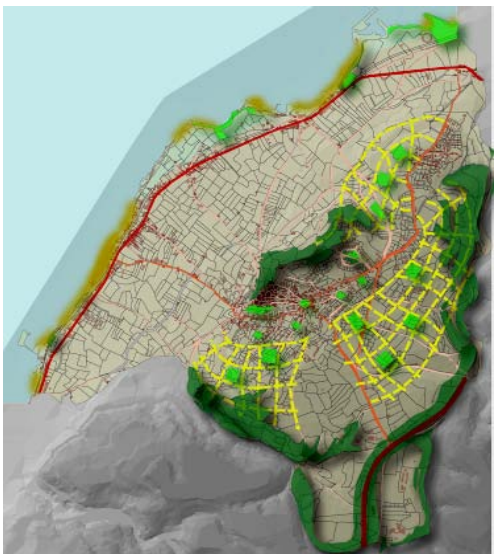
The paragraph ".... *where individual housing, urbanisation or development are provided for by national legal instruments***"** means that the Parties are allowed to adapt the setback principle and urbanize areas within the 100 metre width, but exclusively under specific authorization by a national legal instrument. In this context, it can be considered as a mitigating circumstance due to the fact that the term "*especially*" can be understood in various meanings opening the possibility for a wider interpretation. Despite the "*good faith*" of application of the Article 8-2, the Parties will, no doubt, need to follow the Protocol adaptation requirements taking into account the general objectives and principals of the Protocol. Furthermore, adaptations are also applicable in areas having "*other local constraints especially related to population density or social needs"*. The notion "*population density and social needs"* particularly refers to the problems of the noticeable increase of human occupation of the Mediterranean coastline, having in mind the fact that almost 30% (140 million) of the population of the Mediterranean countries live along the coastal zone, and the number of coastal cities of at least 10,000 inhabitants has almost doubled over the past 60 years.

Beside this, the Mediterranean basin is under great pressure of tourism, both national and international. The increasing trend of human pressure raises the issue of the most appropriate way to ensure the protection of coastal ecosystems. In respect to this the Parties have added a section in the "*adaptation clause*" addressed to population density, for example, to impede development of coastal cities already overpopulated and urbanised by expanding on undeveloped coastal areas**.** This means, according to the Article 8-2-b(2), that States could justify or even non-implement the setback zones in such areas in a full accordance with other provisions of the Protocol. However, the requirements of the Article 8-3, specifying criteria for sustainable use of the coastal zone shall also be taken in account:

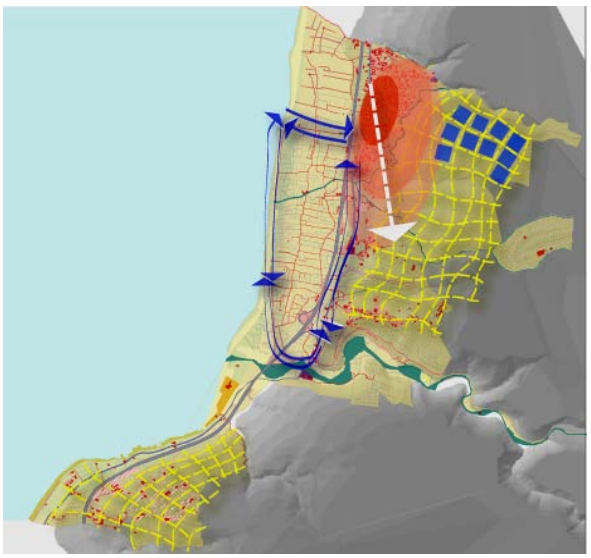
(a) identifying and delimiting, outside protected areas, open areas in which urban development and other activities are restricted or, where necessary, prohibited;
(b) limiting the linear extension of urban development and the creation of new transport infrastructure along the coast;
(c) ensuring that environmental concerns are integrated into the rules for the management and use of the public maritime domain;
(d) providing for freedom of access by the public to the sea and along the shore; and
(e) restricting or, where necessary, prohibiting the movement and parking of land vehicles, as well as the movement and anchoring of marine vessels, in fragile natural areas on land or at sea, including beaches and dunes.

Adaptation of the coastal seatback is a sensitive process greatly determined by various geographical and social factors. The former are determined by the types of the coast, the effects of the physical and ecological processes, while for the latter various socio-economic parameters should be taken into account. Because of its importance these issues are explained in the following chapters within the context of the method for calculation of the setback zone.

The example of Algeria, that stimulates construction of settlements in the hinterland, away from the coast, clearly shows that urban development can be redirected from the narrow coastal strip to less vulnerable and valuable areas. Similarly, in the CAMP Lebanon project, proposals were made to develop new settlements or extensions to the existing towns in the hinterland areas.



CAMP Lebanon project: Sarafand should avoid linear extension



Proposal for the town of Damour to extend in the hinterland

Pay particular attention to:

1. **How to justify the population density and social needs within the process of establishment of coastal setbacks?**
2. **Do the national legal instruments authorise construction within the 100m zone?**
3. **Are spatial planning documents the best instruments for the definition of the setback zone, i.e. to materialise the adaptation clauses?**
4. **Can linear extension of urban areas be mitigated by diverting urban development towards the coastal hinterland?**
5. **Measures to de-stimulate building in coastal zones due to the effects of climate change, such as sea level rise.**
6. **Coastal setback zone within protected areas and other areas protected by sectoral legislation (water, heritage, agriculture). Are these measures sufficient?**

4. Calculation and identification of the coastal setback

In general, the waterline largely depends on coastline configuration and differs considerably among the Mediterranean countries. Therefore, for a successful implementation of this provision the Contracting Parties shall determine the precise point of the Highest Winter Waterline (HWW).

According to Article 8 Parties "*Shall establish in coastal zones, as from the highest winter waterline, a zone where construction is not allowed...".* The term "highest winter waterline" origins from the Roman Institute of Justinian of 533 (Book II, title I) and defines "*the shore of the sea extends to the point attained by the highest tide in winter*". To identify the coastal setback the baseline physiographic criteria (*nature of the coast*) should be examined since different types of coasts are differently affected by physical processes having noticeable effect on the identification criteria in calculating the setback line.

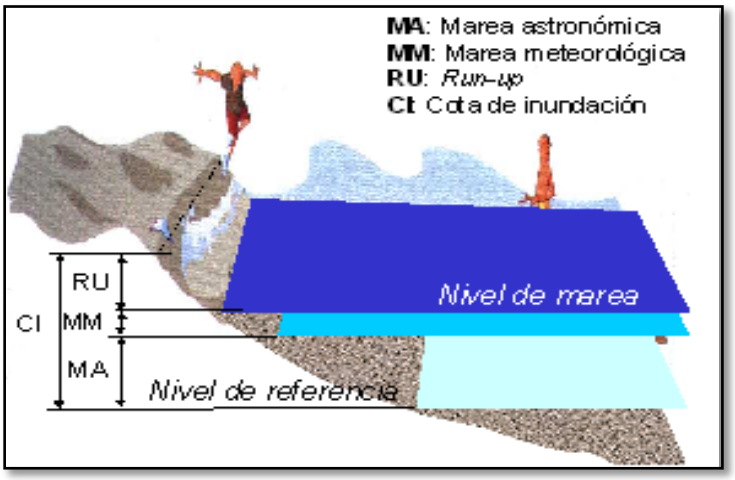
The Mediterranean coastal stretch is characterised by four type of coastlines:
(1) Open-sea sandy coastlines,
(2) Tidal coastlines (semi-enclosed coastlines),
(3) Rocky coastlines, and
(4) Hard (artificial) infrastructures.

Each type of coast (except for hard infrastructures) can be formed either by natural or anthropogenic activities separately, but also as a mix of the two. For instance, beaches can be nourished, lagoons shaped and cliffs stabilised (Sanò *et al.,* 2009; 2011). An example is shown in Figure 5.

Figure 5. Types of coastline, Santander bay (Sanò et al., 2010)

Open-sea sandy coastlines

A sandy coastline is made of beaches and coastal dunes. Their morpho-dynamics is strictly determined by waves and storms ensuring that the sand moves along the shoreline and shapes the profile of the coastline. The identification of the coastal setback line, then, should be based on the morphological information and calculation of the effect of the most extreme events and, for the definitive setback line, high erosion rate and consequences of climate change (sea-level rise) must be considered under an alternative scenario, especially if no intervention is planned. From this perspective, the Spanish methodology for identifying the upper limit of the Public Domain defined by the Coastal Law of 1988 is considered as a good example. The proposed methodology for the determination of the upper limit of the Public Domain[17] is based on the calculation on the highest water levels commonly applies to beaches. Basically, the calculation is defined as a sum of the effects of the tide, surge and the run-up of waves (Figure 6).



Marea astronomica(MA)- tide
Marea meteorologica (MM)- surge
Cota de inundacion - maximum final water level

Figure 6. Methodology for determination of sea level under the storm condition (IH Cantabria, 2007)

[17] Public domain- area covered or temporally affected by waves during the highest storms (Spanish Coastal Law, 1988). The Coastal Law states that the areas covered or temporally affected by waves during the highest storms are part of the public domain. The law doesn't identify any return time for the highest storm. A reasonable and normally applied return time for storms is 50 years.

The water level is difficult to determine. Commonly it is based on statistic calculations of the probability of the occurrence of a certain event. The only certain component in this calculation is the tide, while run-up varies according to the following factors :

- Return times for the extreme events where a reasonable return time for an extreme event is estimated at 50 years;
- Databases for the wave climate using the hindcasting models of dynamic processes able to recreate the wave climate of the past 40 years. This information can be further used to forecast the trend in the wave climate (energy and direction) for the next 50 years;
- Propagation of waves and extreme waves to the area of interest; and
- Calculation of the run-up where the actual run-up is defined based on the current topography of the area.

An example of calculation of the return time for inundation of a beach in the Canary islands is shown in Figure 7 where return times of 2, 10 and 100 years have been used (Sanò et al, 2008).

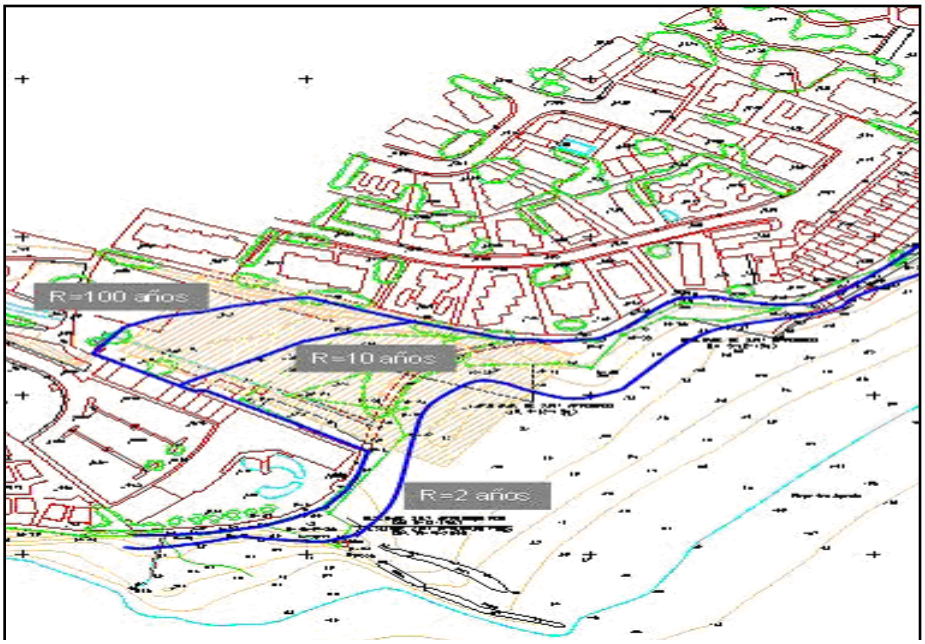


Figure 7. Identification of risk lines (IH Cantabria, 2001)

Pay particular attention to:

1. **Sea-level rise and other effects related to climate change**
2. **Other natural risks**
3. **Type of the coast and coastal processes (e.g. erosion)**
4. **Return times (2, 10, 50, 100 years)**

Tidal coastlines (Semi - enclosed coastline)

Tidal coastlines refer to finer sediment or mud. They are protected from a direct influence of waves and connected to the open sea through coastal lagoons and estuaries.

Although the Mediterranean basin is characterised by a low tidal range, the occurrence of extreme water levels often induced by storm surges can represent a serious threat to semi-enclosed coastlines (e.g. the Venetian Lagoon). According to Sano *et al*. (2009), for such coastlines, parameters for the calculation of a baseline for the coastal setback can include the natural vegetation line (the line where the growth of vegetation occurs[18]), or in the case of data availability the limit of the water table during extreme events. Moreover, although a 50-year return period is generally accepted, specific cases, such as The Netherlands, require a stricter approach. Thus, dunes and dikes along the Dutch coast should be able to resist the effects of a storm which has a probability of occurrence of once in 10,000 years, which corresponds to a sea-level rise of approximately 5 m (Van der Burgh, 2008).

Rocky coastline

A rocky coastline is made of high cliffs and low rocky coast made of a different material. Due to their stable formation, the erosion processes derived from extreme events are considered as the most significant type of threat. The identification of the baseline in this case can be conducted by using the vegetation line as an indicator for storm effects. Furthermore, the general morphology of the coastline can be a useful approach. Based on the French example, a starting point of a 100-metre setback is determined using the vertical distance of the point to which the highest waterline can stretch, without exceptional meteorological conditions (Figure 8).

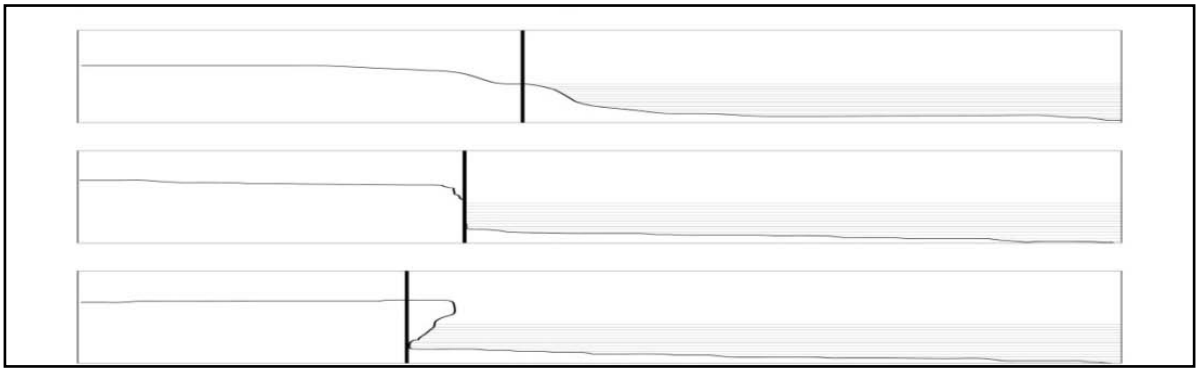


Figure 8. Calculation of the baseline for seatback zone on steep (vertical) types of coast (Rochette *et al.* 2010)

4.1. Physical processes, types of coastline and need for setback line

Understanding the physical processes and their effects on a particular type of coastline represents the basis for the identification and calculation of the coastal setback baseline. In a broader sense, the physical processes encompass both extreme events and chronic processes, including the sea-level rise. An extreme event can be defined as an event with "*high or unpredictable return periods when waves and/or wind provoke strictly interconnected processes like the run-up in beaches, overtopping of infrastructures or rocky coast and extended floods*". The process of coastal erosion can be considered as an extreme event, but only as a result of a heavy storm. Otherwise it should be classified as a chronic process related to a negative sediment balance and historical coastal regression (Sanò *et al*., 2010). The Figure 9. illustrates the effects of different physical processes on various types of coastline in relation to the need for coastal setback zone.

[18] "Vegetation line" means the first line of stable natural vegetation, which shall be used as the reference point for measuring the coastal setback. This line represents the boundary between a normal dry-sand beach, which is subject to constant flux due to waves, tides, storms and wind, and more stable upland areas.

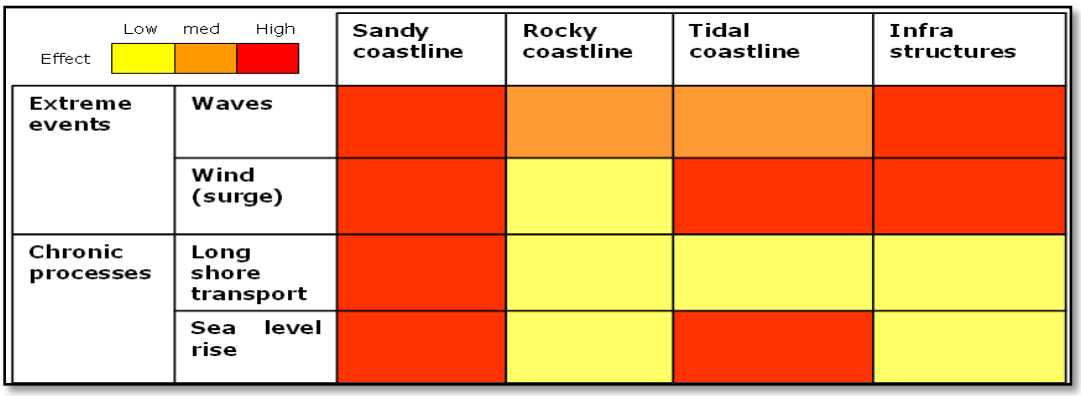


Figure 9. Effects of different physical processes on various types of coastline in relation to the need for coastal setback (Sanò *et al.*, 2010)

5. A proposed approach for calculation of the coastal setback zones

Identification and calculation of the coastal setback zone requires a comprehensive and integrated approach considering both technical and policy analyses. There are very few examples available of possible approaches to the definition of the coastal setback. One of such examples is presented below. In our opinion it integrates the technical and policy requirements including public participation as an important element of this process. From this perspective the main objectives of each aspect should be identified as explained in the Table 4.

Table 4. Parameters for technical and policy analysis in calculation of coastal setbacks (Adapted from Sanò *et al.*, 2009)

	Parameters	Baseline objectives
Technical analysis	Type of coast	Identification of topographic and morphological features: (1) Open-sea sandy coastlines, (2) Semi-enclosed coastlines (tidal coastlines, (3) Rocky coastlines, and (4) Hard infrastructures.
	Physical processes	Assessment of the significant physical processes in order to combine chronic processes and extreme events with climate change.
	Ecological processes	Identification and monitoring of ecological processes.
Policy analysis	Building and infrastructure	Identification of any infrastructure and recreational activities inside the standard 100m width.
	Legal framework	Identification of national, regional and local legal instruments dealing with the setback zone implementation processes. Analysis of national legal instruments with regard to 'adaptation clauses'. Make reference to Articles 5 and 6 of the Protocol
	Stakeholder perception	To involve local stakeholders in a consensus – building participation process should be considered as an essential part of the management process for the implementation of the coastal setback zones.

6. Conclusion

The ICZM Protocol for the Mediterranean, adopted in 2008 and entered into force in March 2011, is a unique legal instrument worldwide that requires, in its Article 8, the establishment of the coastal setback, i.e. a zone of 100m where construction shall not be allowed. This provision should be understood in a symbiotic manner equally important for maintaining human safety, protection of property from various risks, environmental protection, and for its potential for public use. Although the Article 8 unquestionably represents a binding provision, due to the Mediterranean geographical and political heterogeneity the Contracting Parties have considerable space for manoeuvre and open *room for interpretation* in term of adaptation of the standard 100m width provided within "*adaptation clauses*" 8-2(a) and 8-2(b).

In other words, although the Protocol has a clear aim to establish "a common framework" for ICZM it also provides sovereignty for implementing the "*adaptation clauses*" for coastal setback as long as these are in correspondence with its main principles and objectives provided in the Articles 5 and 6. Thus, the adaptation clauses 8-2(a) and 8-2(b) may take different forms and be interoperated in different manners according to national systems as long as they follow the Protocol requirements.

The transposition of the Article 8 into a national law mainly depends on the national legal system, and therefore one of the Parties' main tasks is to determine whether or not legal adjustments are needed to comply with the provisions of the Protocol. However, for the reason of "*good faith*", attention should be paid to the main principle stipulated in the Article 8 which has precedence over the *"adaptation clauses".*

The calculation of the coastal seatback represents a genuine challenge which greatly depends on the morphological configuration and topography of the coastline, as well as on the physical processes affecting it, such as coastal erosion, extreme waves or sea-level rise due to the climate change. But it also depends on the existing relevant national regulations, in particular the definitions related to 'public interest' or the interpretation of other adaptation clauses from the Protocol itself. The objectives and principles of the ICZM Protocol must always be borne in mind. Accordingly, the identification and implementation of the coastal setback should be based on an integrated methodology that uses scientific knowledge of physical processes, information on ecological and landscape values, and, first of all, on the analysis of the policy requirements and the established legal system of the country.

The decision-making process in a specific coastal area should be well informed of the reasons for the definition of the setback zone. A thorough justification should be provided giving arguments which do not focus solely on the very legal aspects of the requirement to define the setback. On the contrary, the decision makers should understand the very broad scope of positive effects that the setback zone can provide in a long term. This primarily regards the issue of safety, including human lives and the protection of the property from various natural risks including the sea-level rise, tsunamis, and extreme weather events, such as storms, winds and floods. In economic terms this is almost immeasurable. However those who create pressure and develop this most valuable but also very vulnerable space should be aware that, most probably, the insurance companies, for instance, will no longer cover damages if caused by the events that were among the criteria for the definition of the coastal setback zone.

Conservation of the setback zone for environmental purposes, i.e. protection of the coastal landscapes, its geomorphology, the related ecosystems, habitats and biodiversity is equally important. Many other aspects, such as public access and use of the beaches for recreation and numerous other services that can be provided in this narrow space along the sea should always be taken into account when defining the setback zone. In a

long run this will undoubtedly become a precious contribution to the quality of life of all that live in the very proximity to the sea, but even more of those from the hinterland. Therefore, the adaptation clauses of the Article 8 should be used in a positive way, i.e. not as an argument to shrink the 100m, zone but rather to extend it further into the terrestrial part of the coastal zone.

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