

# Considering LSI in MSP in Greece: updates and challenges

PAPAGEORGIU M.<sup>1</sup>, KYVELOU S.S.<sup>2</sup>

<sup>1</sup>Aristotle University of Thessaloniki, University Campus, 54124 Thessaloniki, Greece

<sup>2</sup>Panteion University of Political and Social Science, 136 Sygrou Av., 17671 Athens, Greece

\*corresponding author:

e-mail: marpapageo@plandevel.auth.gr

**Abstract.** The LSI analysis should be understood as an important component in the preparation of MSP plans to be reached through consistency of policies and decision-making. In Greece, although LSI as a term is fully incorporated in MSP legislation, its consideration may be easily and completely disregarded, given the contradicting provisions introduced by L.4759. This paper suggests that consideration of LSI in MSP in Greece (which is a highly insular and coastal country), can be achieved if: interaction between MSP plans and TSP plans is (re)established by Law; LSI analysis is incorporated as binding step in the MSP; the so far sectorial orientation of MSP is suppressed in favor of a more place-based approach; governance schemes give priority to local administration and communities; international cooperation is encouraged; the Multi-Use concept is integrated in Greek MSP.

**Keywords:** MSP, LSI, Law 4546, Law 4759, Greece

## 1. Introduction

Maritime spatial planning (MSP) is gradually becoming an extremely important and challenging policy process, aiming at balancing different claims on the marine space. This is why in 2014, EU adopted the MSP Directive (2014/89), calling Member States to establish maritime spatial plans and cooperate with neighboring states on these issues. Nearly all developments and uses taking place in the marine environment also have an onshore component or impact. This is why the MSP Directive calls for the inclusion of land-sea interactions (LSI) in the MSP process to promote sustainable and integrated development and management of marine activities. Hence, coordination between maritime and terrestrial spatial plans should be reached through consistency of policies and decision-making.

However, stakeholders engaged in MSP, experience meaningful challenges in making sense and give “flesh and bones” to the LSI. This is due to the fact that there are many factors and sectorial policies that shape development on both land and sea, all of which should ideally be considered in an integrated planning and management process. Furthermore, planning for land and sea is often shared or fragmented between different government responsibilities and agencies, mirroring the governance system of the particular country and the different national spatial

planning systems (SUPREME, 2018). This often results in complex governance settings that become more complicated in cross-border MSP coordination, since LSIs are often of a transnational/cross-border nature. Furthermore, LSIs differ for each region, and there are different methods to analyze the interaction and the impacts of activities on land, on the sea, and vice versa.

All the above make obvious that there cannot be a uniform European approach to analyzing the complex relationships between land and sea in the context of maritime and/or territorial planning. This paper focuses on the challenges and opportunities of incorporating the LSI analysis in MSP in Greece, which is a country that has a long tradition of ties with the sea and is highly coastal and insular.

## 2. About the LSI analysis

### 2.1. The land-sea interface

The coastal zone constitutes the interface between land and sea, comprised of a continuum of coastal land, intertidal area, aquatic systems including the network of rivers and estuaries, islands, transitional and intertidal areas, salt marshes, wetlands, and beaches (Cicin-Sain and Knecht, 1998). Coastal zones are also defined as bands of land and sea of variable width following the nature of the environment and the management needs. They are seldom corresponding to existing administrative or planning units. The natural coastal systems and the areas in which human activities involve the use of coastal resources may therefore extend well beyond the limit of territorial waters, and many kilometers inland. Coastal zones are inhabited by the large majority of the world's population. Coastal population is estimated to account for 75% of the total world population by the year 2025. Moreover, more than 70% of the world's megacities are located in coastal areas. Coastal zones are continually changing because of the dynamic land-sea interaction.

### 2.2. The LSI analysis

LSI analysis should be understood as an important component in the preparation of a coastal and/or marine plan. Anyway, LSI itself is not a new discipline, nor

represents an additional requirement for coastal or maritime planning activity. When carrying out maritime spatial planning (MSP), it is important to consider the dynamics that occur between land and sea, and to ensure that spatial planning is conducted in an integrated manner across maritime and terrestrial areas. This is in the interest of both environmental protection of coastal areas and the effective development of maritime and coastal economies. It is also a minimum requirement of the EU MSP Directive to take land-sea interactions (LSI) into account when preparing maritime spatial plans. Overall, LSI analysis aims to provide the needed information for a coherent land-marine planning across the coast interface.

There are a number of possible ways to address LSI in MSP, such as building on the practice of integrated coastal management (ICM), harmonizing terrestrial and maritime spatial plans, and carrying out spatial planning at a scale that crosses the land-sea border. Where experience has already developed within MS, different methodologies are being taken, echoing those nations' geographies and institutional and planning contexts. Many Member States are now considering how best to deal with LSI in their MSP procedures. All Member States could benefit from understanding the options that are available and considering how to develop their practice further.

### 3. MSP in Greece

#### 3.1. The MSP (legislative) framework in Greece

Following the EU MSP Directive 2014/89, in 2018, Greece passed Law 4546, introducing in this way the first legal document fully dedicated to Maritime Spatial Planning (MSP). In compliance with the EU MSP Directive, the Greek Law sets a clear transnational framework for MSP, raising the following issues (art.4): a) the necessity for transboundary cooperation among countries sharing the same marine region (given the transboundary nature of the sea), b) the necessity to consider LSI at a national and an international level, and c) the necessity to adapt to the Ecosystem Approach, and by association achieve transition from sectorial to a place-based MSP approach.

Further than that, the Greek Law 4546 (art.5), commanded the preparation of: i) a National Spatial Strategy for the marine space of the country and ii) MSPlans, the number and size of which would be identified following the guidelines set by the Greek Law harmonizing the EU 2008/56 MSF Directive (Law 3982 of 2011).

In 2020, the Greek MSP Law 4546 was amended (by Law 4759/2020), introducing two major changes. The first change regarded the geographical scope of MSP in Greece. Initially (in 2018) the MSP geographical scope included all marine areas as well as the coastal zone (both its terrestrial and marine parts), whilst in 2020 (by Law 4759), the geographical scope of MSP was limited to the marine parts of the country only (art.2 of Law 4546, as amended by L.4759). In other words, the coastal zone was excluded from the scope of the MSP law. To further emphasize that, with art. 24 (replacing art.8 of L.4546), this new law disconnected MSP from TSP, by making clear reference that MSPlans shall only interact with other MSPlans, and not with TSPlans (Terrestrial Spatial Plans), which are

responsible for setting rules for coastal/land developments and for land activities that have a great impact on the sea.

The second change that this new Law (4759) introduced, regarded the scale of MSPlans, that is their classification as Regional Plans. This, combined with a previous provision that renames Maritime Spatial Plans to Maritime Spatial Frameworks (L.4685/2020) leads to the hypothesis that there is a political will to not give regulatory force nor binding character to MSFs. They are only to provide strategic planning guidelines, and can also be subjected to amendments, whenever this is indicated by a special type of Plan (Eidiko Choriko Schedio), which is usually associated with investments that are centrally approved by the government.

To conclude, although LSI as a term is fully incorporated in all Greek MSP legislative documents, consideration of LSI in MSP may be easily and completely disregarded, given the opposing and contradicting legislative provisions that were recently introduced by L.4759. By choosing to dichotomize the land from the sea and, by association, MSP from TSP, what is also placed at risk, is sustainable and integrated management of the Greek coastal zone (ICM), which is a highly vulnerable and valuable space, under great pressure (Beriatos and Papageorgiou, 2010).

#### 3.2. Key facts about the Greek marine and coastal space

Greece is a country well known for its extremely insular and coastal nature. It is estimated that the coastline of Greece (both in the continental and insular parts), extends to more than 15,000 km, making the country the second most coastal in Europe. The majority of population and productive activities are concentrated in proximity to the sea (Kyvelou, 2016). Indicatively, 33% of the population is concentrated in the "narrow" coastal zone of the country (i.e. up to 2 km deep), while 85% of the population is concentrated in the "wider" coastal zone (i.e. up to 50 km deep). Nine out of the 15 largest urban centres and 12 out of the 13 regions of the country are coastal, like almost half of the municipalities (Beriatos, 2013). Finally, almost 80% of industrial activities, 90% of tourism and recreation, 35% of rural land, as well as a substantial part of basic infrastructure (ports, airports, roads, telecommunication and electricity networks) are concentrated in the coastal zone of Greece (Hellenic Federation of Enterprises, 2018).

As for the marine space, more than 3,000 Greek islands, islets and outcrops are spread in three (3) different Seas of the east Mediterranean Basin – the Ionian, the Aegean and the Levantine Sea. The populated/inhabited islands are about 120, and they vary considerably in size and distance from the continental parts of the country. As regards the seabed topography, the marine space surrounding Greece is characterized by great depths, because of the ongoing and intense seismic activity, which has longtime resulted in the formation of extended seismic trenches. In fact, the deepest recorded point (5,267 meters below the sea surface) in the Mediterranean is Calypso Deep, found in the Ionian Sea. As a result of this geomorphology, Greek Seas are also characterized by significant biological diversity of living resources (marine fauna, marine species, catches, etc.), as well as of non-living resources (hydrocarbons, etc) (Bianchi and Morri, 2000; Moudrakis, 2010; Mazaris, 2019). The great significance of this marine

environment has been well recognized by the Greek State, which makes constant efforts to put many marine areas under special protection status (Papageorgiou, 2016a).

Because of this highly insular and coastal nature, Greece has also an interesting and long maritime tradition (boats and boatbuilding, fishing and seafaring etc), that dates to ancient times. This maritime tradition of ancient Greece is now reflected in the numerous ancient shipwrecks and the very rich underwater cultural heritage (parts of ancient port-cities, etc) that are now included in a long list of protection, under the jurisdiction of the Ministry of Culture (Papageorgiou, 2019).

It is also remarkable that in Greece, land and sea are symbiotic entities, an indivisible whole (Kyvelou and Ierapetritis, 2019). Life on the coast and the islands is developing throughout and because of the sea and vice versa, and this has significant cultural and social implications. Cultural landscape diversity (Gee 2019; Kyvelou 2019) resulting from land–sea interaction is a real benefit for the local communities, likewise the overabundance of maritime cultural heritage (MCH/UCH), as already mentioned.

In terms of maritime activities, Greece is placed among the top countries in fishing exports (free fishing and aquaculture), and among the ones with the largest shipping fleet in the world (Kapros and Panou, 2007). Due to its extremely insular nature, the Greek marine space is overloaded with a dense naval transportation system and sea lanes (Tzannatos *et.al.*, 2005). Marine tourism (including cruises, yachting etc.) is also an upcoming and promising economic activity, taking advantage of the great insularity of the country and its location in the safe - semi-oceanic - waters of the Mediterranean Sea. Due to their crucial geopolitical location, Greek Seas are also crossed by important energy networks, while lately, energy planning (i.e. hydrocarbon extraction and construction of LNG, pipelines, cable networks etc) is a sector in constant growth. It is worth noting though, that offshore wind farm sitting is not at all developed in Greece yet (Spyridonidou, Vagiona and Loukogeorgaki, 2020).

### 3.3. MSP experience and practice in Greece: the prevalence of the sectorial approach

Despite the intensity of use of the Greek marine space, the only Spatial Framework that has been adopted/approved so far in Greece regards the aquaculture and sea farming sector, which constitutes a major maritime and coastal economic activity, with highly competitive and exporting products. This sectorial Plan (providing strategic planning guidelines at the national level) was adopted in 2011, via Official Gazette No 2505/B/2011. All other maritime sectors and activities that take place in the Greek marine space, are regulated by National Policies and Strategic Documents, approved by the competent Ministries separately, under minimal sectorial interaction.

Beyond aquaculture and sea farming, other sectorial Spatial Plans that indirectly – and by association – address economic sectors and infrastructure that can also take place in the sea are those related: a) to the Renewable Energy Sources and b) the tourism sector (making special

reference to cruise tourism, yachting, beach-based tourism, etc.). Both these sectorial Spatial Plans are under revision.

Exception to the above clearly sector-based approach, is planning efforts and management in the Greek MPAs' (Marine Protected Areas), which takes place under a clearly place-based approach. Starting in the 1990's, with the designation of two (2) Marine Parks in Zakynthos island and in Alonissos island (Papageorgiou, 2016b) and the most recent MPA of the island of Gyaros and its surrounding marine area, the marine areas under protection in Greece have grown considerably after 2017, and they now cover 22% of the Greek Territorial Waters (mainly as part of the Natura 2000 European network of Protected Areas) (Common Ministerial Decision 50743/11-12-2017). In the MPAs, there is explicit zoning for specific maritime activities, indicating various protection levels according to the biodiversity conservation objectives. However, as it happens for quite a lot of Natura sites all over Europe (Vassilopoulou *et.al.* 2020), the Greek sites remain “paper parks” (WWF,2017). It is thus essential, for the designation of marine protected areas in the European seas to establish efficient conservation planning principles rooted also in the MSP process.

To conclude, in terms of MSP implementation, Greece has to accelerate its pace towards the elaboration of both the Strategy for the Marine Space and Maritime Spatial Plans (Frameworks) especially under a place-based approach, in compliance with the EU MSP Directive. Adopting a more place-based approach, is also another – indirect – way to consider LSI in MSP in Greece. Nevertheless, the exclusion of the coastal zone from the scope of the MSP law, has to be revised so as to promote the LSI analysis in the framework of the Regional Maritime Plans.

## 4. Considering LSI in MSP in Greece: initial insights

Although Greece is a highly coastal and insular country with an extended marine space, implementation of MSP following the EU Directive (MSP 2014/89) is still in quest. So far, spatial planning in the Greek marine space has mainly taken place under a sectorial approach, contrary to the EU MSP Directive provision (calling for place-based approaches when planning in the sea). At the same time, consideration of LSI in the MSP process of Greece is also in stake, given the opposing and contradicting provisions included in the Greek legislation (L.4759). Given all the above, and since the MSP in Greece is still pending, this paper wishes to share some insights on how to consider LSI in MSP when planning the Greek marine space.

- It is important that interaction between MSPs and TSPlans is encouraged (and established by law), since all maritime activities and developments taking place in the sea have an onshore component or impact. The ICZM Protocol (which has not been ratified by Greece yet), constitutes a document that should be considered.
- When the MSP management units are identified in Greece, this should be accompanied by clear reference on the land parts that MSPs should consider. This presupposes that an LSI analysis is incorporated as binding step in the MSP process. A methodology on the identification of the land parts that interact with the sea was proposed in the framework of the EU SUPREME

project – in the case the Corinthian Gulf and the inner Ionian Sea (see Papageorgiou *et.al*, 2020).

- It is important that the strong sectorial orientation of planning in the Greek marine space is suppressed, in favor of a more place-based approach (in compliance with the EU MSP Directive).
- Governance schemes should give priority to local communities and administration (1<sup>st</sup> tier and 2<sup>nd</sup> tier authorities), which are - in principal - the “end-users” and/or the ones directly affected by decisions related to the use and management of their sea.
- International cooperation schemes should be further encouraged and established. Past or ongoing EU project Boards, as well as permanent committees under the E.U. or UNEP/MAP can serve further addressing LSI beyond the areas of jurisdiction of Greece, i.e. with land parts of countries sharing the East Mediterranean Sea.

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- Finally, spatial efficiency in the marine space in a socially sustainable way (Kyvelou and Ierapetritis, 2021) requires avoidance of exclusive rights of certain maritime activities, such as the aquaculture -promoted by the AZA zoning mechanism (POAY in Greek). The solution to this is the explicit endorsement of the concept of Multi-use (MU) in the marine space. The MU framing in key policy documents, such as the National Strategy for the Marine Space (previewed by the MSP laws already mentioned), is of paramount importance. By promoting inclusive sharing of resources by one or multiple users and “co-location” or “co-existence” of different uses can also promote links and efficient collaboration and probably clustering between several industries, either land or sea based. The non-hegemony of certain activities favored by the recent legal provisions goes hand in hand with agglomeration economies across land and sea and thus to essential blue growth outcomes.
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