



Marine spatial planning and the Greek experience

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ABSTRACT

The paper focuses on MSP experience and practice in Greece, which is a coastal country with a singularly extended coastline and a highly insular nature. Given these attributes, Greece has long since developed a detailed and regulatory coastal zone planning system which, however, is merely implemented. At the same time, due to the geopolitical conditions with neighboring (non- E.U.) countries, Greece also has a long tradition in sectoral planning in the sea, and great difficulty in adapting to an area-based management approach. Considering these facts, the paper concludes that, unless the EEZ is proclaimed, Greece is very likely to keep a sectoral MSP orientation in the future (with a few exceptions of area-based management in gulfs and sea-lagoons). Another option for area-based MSP is via extension of the existing management units of terrestrial plans up to the territorial waters. Nevertheless, proclamation of the EEZ is also necessary so as integrated MSP takes place at all levels (national, regional and local) and Greece takes full advantage of its crucial geopolitical position.

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Introduction: new needs and trends in marine space

As recent research proves (e.g. Millennium Ecosystem Assessment [1]), the constantly growing and unplanned use of the marine resources during the last decades, along with the constantly growing (in volume and number) human activities taking place in the sea [2], has resulted in serious alterations to the marine biodiversity and therefore irreversible damages to the marine ecosystem [3,4]. As a result, not only are scarce marine resources threatened by exhaustion and degradation, but most importantly, the ability of the ecosystem to keep delivering valuable services both to the environment and to humans is under threat as well [5].

Considering these facts, the protection of the oceans and seas, as well as the formation of regulations and principles for the development of human activities taking place in the marine space, are more and more considered to be aspects of prime importance for most international and national bodies (among them the United Nations and the European Union). Indeed, having full acknowledgment of the threats that the marine ecosystem is facing, more and more international organizations (or even sole countries) are turning their interest towards a relatively new tool and concept – Marine Spatial Planning (M.S.P.) – which is constantly gaining ground as a major means towards the implementation of

national and international policy guidelines adopted in favor of the marine ecosystem and space (Ecosystem Approach).

According to UNESCO, Marine Spatial Planning is defined as a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that usually have been specified through a political process. Characteristics of marine spatial planning include ecosystem-based, area-based, integrated, adaptive, strategic and participatory [6]. Therefore, MSP is considered to be an effective tool and process for tackling the growing competition among marine activities, as well as the environmental impacts of these activities on the coastal and marine ecosystem.

Given the above, the present paper explores Marine Spatial Planning experience and potentials in the case of Greece, which is a particularly coastal country, having extended coastlines and a highly insular nature. The paper begins with conceptual and methodological specifications regarding MSP (planning approaches, etc.) and continues with aspects related to the integration of Terrestrial Spatial Planning (TSP) and Marine Spatial Planning (MSP). Regarding the Greek case, the paper presents the provisions of the national spatial planning framework regarding the marine areas of the country and then gives emphasis to the planning approaches regarding the coastal zone, which covers a rather extended part of the Greek territory, and works as the transitional zone from the land to the sea. The paper also presents MSP implementations in the country and ends with a discussion on the future of MSP in Greece, given the fragile nature of the geopolitics in the East Mediterranean Basin.

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About marine spatial planning

Methodological framework for MSP: sectoral vs area-based planning

The fact that so far there are very few marine spatial plans world-wide does not necessarily mean that planning in the marine space is poor and uncommon. On the contrary, planning on a sectoral basis has been very common for a long time, all over the world.

The first early planning attempts in the marine space were, of course, related to food and alimentation, resulting in fishery zonings in lot of cases. Since then, increasing needs for sea transportation has resulted in a dense network of sea lanes, along with a series of port infrastructures and facilities. In the beginning of the 19th century, mineral resource extraction (aggregates, hydrocarbons, etc.) was another activity that was regulated by sectoral planning, whilst in most recent years, sectoral plans in the sea regarded a range of economic activities such as those related to renewable energy sources (wind power, wave power, etc.) as well as to aquaculture [3].

However, even if sectoral planning has long been a rather familiar planning practice in the sea, with many scholars arguing about its benefits [2,7,8], lately a new trend has emerged: area-based (or place-based) management, a new – and diametrically opposed – planning approach, serving the implementation of the Ecosystem Approach (EcAp),¹ which is a concept widely adopted in most U.N. and E.U. documents related to the marine environment.

Contrary to sectoral planning, adoption of an area-based approach in MSP presupposes wise and careful determination of the management units [10]. Among the various attempts that have been made in the past to identify such units for area-based management in the marine space, of particular interest are considered to be those using the ecosystem boundaries (units).

Indeed, one of the first attempts to identify integrated management units was made in the 1980s, when a group of American Scientists identified 64 Large Marine Ecosystems (LMEs)² all over the world [3]. The Large Marine Ecosystems – which supported Chapter 17 of Agenda 21, adopted by the UNCED, in 1992 [2] – covered quite a large surface area (of approximately 200,000 km² each), including terrestrial and marine space, starting from the top of a river basin reaching the continental shelf limit, which is considered to be the habitat of over 90% of the marine living resources (fishes, etc).

About a decade ago, another interesting attempt was made by the European Union, as part of the E.U. Fisheries Policy and the Integrated Maritime Policy. Determination of the 11 (European) Marine Regions or Eco-regions was made in such a way so as to serve not only the EcAp principle but also the transnational co-operation among member-states when planning in the sea (see Fig. 1). Delimitation of the (European) Marine Eco-regions was mainly based on bio-geographic and oceanographic features, but also on existing geo-political and socio-economic conditions at the European level [10].³

¹ The Ecosystem Approach is a rather well-known concept among marine biologists since the 1980s and is defined as “the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of goods and services and maintenance of ecosystem integrity” [9].

² The concept of Large Marine Ecosystems (LMEs) was introduced during an international Symposium in the 1980s by Dr. Kenneth Sherman (National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service – U.S.A.) and by Dr. Lewis Alexander, University of Rhode Island (Kingston, U.S.A.).

³ European Marine Eco-Regions can be further divided into bio-geographic regions, which can be sub-divided into multiple types of habitats [8].

However, even if determination of the management units for MSP using the ecosystem boundaries is widely considered to be suitable for area-based MSP [2,4,11,12], it cannot be the only criterion. After all, ecosystem limits scarcely (or never) coincide with national, regional or local administrative boundaries, which are commonly used when defining management units in TSP (Terrestrial Spatial Planning). Therefore, other important and necessary criteria when identifying the management units for area-based MSP are also considered to be [13,14]: the administrative boundaries (at all tiers) as well as the territorial limits (geopolitical boundaries) as defined by the International Law of the Sea (UNCLOS, 1982).

To conclude, regardless of the methodological framework (sectoral vs area-based planning and management), it is important that MSP becomes a multi-scalar task and process [2,16,17], as is, after all, TSP (Terrestrial Spatial Planning). It is only in this way that planning will be able to address the growing needs and problems that the marine space is facing, which are of a more strategic nature at the national (and transnational) level and of a more regulatory nature, at the local scale.

The transition from the land to the sea and from terrestrial to marine spatial planning

Since the marine space constitutes the physical extension of the land, it is only natural that Marine Spatial Planning (MSP) becomes the extension of Terrestrial Spatial Planning (TSP) and vice versa. After all, human activities, as well as infrastructure taking place along both sides of the shoreline, affect and interact with each other, due to this land and sea continuum [18].

Accomplishing compatibility and continuity between MSP and TSP, necessitates a two-fold integration [3]:

1. At the spatial planning framework per se (i.e. integration between terrestrial and marine spatial planning systems) and
2. At the planning context (cohesion and of planning regulations in the transitional coastal zone)

Regarding integration of spatial planning frameworks, opinions vary considerably among scholars. Indeed, some of them [19,20] claim that, integration and convergence between MSP and TSP is ideally achieved via Integrated Coastal Management (ICM), even if opposite arguments stress that so far, ICM has a limited legal basis world-wide [21]. According to other Reports [22], cohesion between MSP and TSP is ideally achieved if MSP management units are delimited in such a way so as to include terrestrial parts of the coastal zone. A third option suggests planning in the marine space should take place as part of Terrestrial Planning, with the extension of TSP management units up to the Territorial Waters (if no EEZ is proclaimed) [23].

Regardless of the approach one might adopt, key and common factor among them for the achievement of integration between MSP and TSP is the “amphibious” coastal zone, which is a zone of transition and not of divide between the sea and land. In this context, issues that must be commonly addressed by both TSP and MSP, concern [3,22]:

1. natural hazards threatening the coastal zone, related to climate change (sea level rise, coastal erosion, etc.) and natural disasters (tsunamis, etc.), affecting both the natural ecosystem (e.g. shores, wetlands, species, etc.), human activities (e.g. aquaculture, tourism) and built-up areas (e.g. coastal towns, ports)
2. user-user conflicts and user-environment conflicts, affecting both the human activities and infrastructures (located in the coastal zone) and the coastal and marine ecosystems as well
3. coastal settlements and built-up areas (e.g. cities, ports)

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