



Fishing in a congested sea: What do marine protected areas imply for the future of the Maltese artisanal fleet?



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ABSTRACT

Inshore artisanal fishing in Malta is under intense spatial competition as the coastal zone is fragmented by multiple uses and designations including maritime transport, infrastructure, industrial fisheries, aquaculture, tourism and recreation. This research, adopting a grounded visualization methodology, explains how the artisanal fishing sector has undergone and been affected by 'spatial squeezing'. Our results show that artisanal fishermen have been forced to give up fishing grounds or co-exist with other uses to the point where the ability to fish is becoming increasingly challenging. These difficulties might escalate with the advent of the marine protected areas (MPAs) which encompass nearly half of the inshore fishing zones. Since there does not seem to be effective MPA consultation mechanisms that elicit the real social, cultural and economic value of artisanal fishing grounds, fishermen feel threatened, alienated and disempowered. This study urges for a more holistic approach to spatial marine planning and accentuates the need of realizing the dependency of the artisanal sector on the inshore zones in the implementation of conservation measures, such that the prolonged existence of the coastal fishing communities is not jeopardized.

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1. Introduction and background

Coastal fisheries, which are predominantly characterised by local fishers engaging in traditional fishing methods, are long considered to be an integral part of the social and economic fabric of coastal communities worldwide (Álvarez, Seingier, Bocco, Espejel, & Noriega, 2015). Artisanal and small-scale fishing activity varies across different countries (Guyader et al., 2013), but typically involves short fishing trips close to the home fishing port and hence is confined to the coastal zones (Maynou, Recasens, & Lombarte, 2011). Since these zones are increasingly host to other users (Stojanovic & Ballinger, 2009), fishing communities are experiencing competition for fisheries resources or sea-space, and thus are finding it difficult to maintain their practices within increasingly congested waters (Salmi, 2015).

Some conflicting users, including industrial fisheries (DuBois & Zografos, 2012), recreational fishing (Cooke & Cowx, 2006) and snorkelling/diving (Fabinyi, 2008) pose competition for both the fisheries resources and the sea-space, whilst other users are only

after the sea-space as a geographical area within which they could develop their activity/industry such as aquaculture (Mishra & Griffin, 2010), energy production (Yates, Schoeman, & Klein, 2015), shipping (Davis et al., 2016), oil exploration (Ounanian, Delaney, Raakjær, & Ramirez-Monsalve, 2012) and conservation (Richmond & Kotowicz, 2014). Although inherently different, the types of competition posed by various users produce the same results: artisanal fishers get squeezed by processes of 'ocean grabbing' (Song, 2015) or 'blue grabbing' (Benjaminsen & Bryceson, 2012). These processes involve the acquisition and privatisation of sea-space by powerful social groupings who are empowered to designate spatial boundaries through formal procedures of marine policy and governance (Levine, Richmond, & Lopez-Carr, 2015; Pinkerton & Davis, 2015). These social groupings, because of their power, become what Henri Lefebvre (1991) in his theory on the social production of space, refers to as the 'producers' of space, while those under the rule become the 'users' who passively experience and receive whatever is imposed on them and the territories to which they belong. In this manner, the producers are empowered to 'privatise' parts of the seabed to accommodate specific forms of marine uses that fulfil the needs of particular socio-economic trajectories (Clausen & Clark, 2005; Sohn, Christopoulos, & Koskinen, 2013), and in their production of this

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socio-spatial arrangement, they simultaneously create political and geographical marginalization of other users (Jones, 2009; Levine et al., 2015; Silver, 2014).

In other words, through this process, according to Lefebvre, the producer 'permits fresh actions to occur, while suggesting others and prohibiting yet others' either because such uses are unknown by the producer or are considered as incompatible to the new trajectories (Lefebvre, 1991:73). This producer/user dichotomy is also applicable in the context of marine protection since MPA proponents who hold conservation 'knowledge/power' are authorised to draw protected area boundaries in spaces utilized by indigenous groups, and, in the process, may create equity and access implications for traditional users (Richmond & Kotowicz, 2014). In these situations, if users such as coastal fishers lack the socio-political agency to influence decision-making of marine spatial policies (Pomeroy, Hall-Arber, & Conway, 2015), they are likely to become displaced and spatially squeezed out from their indigenous fishing territories (Jentoft, 2017).

In our study we look at the situation in Malta: an island state in which artisanal fishers have faced a major form of policy and market squeezing due to the introduction of quotas for the offshore bluefin tuna fishery and have thus become more dependent on the inshore coastal fisheries (Said, Tzanopoulos, & MacMillan, 2016). The inshore coastal area especially, within the 3 nautical mile zone (henceforth 3NMZ), is considered as a good fishing ground for artisanal practices including trammel and gill nets, long-lines, pots and traps, and other hook-and-line methods (Stelzenmüller et al., 2008). This zone is also home to a range of other marine uses including industrial trawl fishing, aquaculture, shipping and bunkering, energy, recreational snorkelling and diving (Deidun, Borg, & Micallef, 2011).

Various studies have looked into the local coastal conflicts (Conrad & Cassar, 2007) between the different uses such as aquaculture and tourism (Boissevain, 2006), aquaculture and the environment (Kotzebue, 2012) and multiple-use marine conflicts (Deidun et al., 2011), however, to date, there have been no studies that delve into the issues arising from the existence of an artisanal small-scale fishery within the 3NMZ. For example, Deidun et al. (2011), do not fully identify the spatial restrictions facing the artisanal sector, which, we would argue deserves recognition as a primary stakeholder within the promulgation of new planning policies. Furthermore, the small-scale fishing sector was a 'missing layer' in a recent national report that focused on Malta's spatial plans for sustainability and the environment (ed. Formosa, 2014), and in the national government plans for integrated coastal zone management (MEPA, 2011) and marine spatial planning (MEPA, 2007).

Unlike most of the 'new arrivals' such as shipping, bunkering, diving, aquaculture, swimming and marine conservation which are all legally designated on the national map, the small-scale fishing activity within the inshore zone is not spatially recognized through national and/or supranational legislative frameworks. Although the EU Mediterranean Regulation (EC1967/2006) provides for the recognition of these activities by stating that 'part of the coastal zone should be reserved for selective fishing gears used by small-scale fishermen', the Maltese government is not obliged to designate specific boundaries for the small-scale fisheries.¹ Consequently, the national fisheries law (Cap 425.01) provides only for the spatio-temporal restrictions of artisanal fishing within bays and creeks, and it does not specify the boundaries in which artisanal

fishing occurs, thus fishers remain unprotected against the proliferation of uses and risks emanating from new forms of seabed uses.

This reality is critically important with regard to the upcoming implementation of MPAs. MPAs in Malta are a relatively recent phenomenon that emanate from the EU Habitats Directive which sets an obligation for EU member states to establish marine Special Areas of Conservation (SACs) (EEC43/92). These SACs are considered as necessary to protect priority natural habitat types, such as seagrass meadows (e.g. *Posidonia oceanica* beds) and protected species including bivalves (e.g. *Pinna nobilis* and *Lithophaga lithophaga*) (Trochet & Schmeller, 2013). Although the SACs are not in place to conserve commercial fisheries resources,² the protection of the habitats and species must be addressed in conjunction with the social and economic activities in place, including fishing, to avoid the 'deterioration of natural habitats and the habitats of species as well as disturbance of the species' in line with the Habitats Directive (EEC43/92 [6]).

Even though the obligations emanate from the EU, the selection of the candidate sites for SACs falls mainly within national jurisdiction, thus member states are to ensure that the necessary marine protection follows the obligations of the Directive. The choice of the site brings forward a number of issues that have incited implementation problems in a number of EU countries (Beunen, Van Assche, & Duineveld, 2013; Ferranti, Beunen, & Speranza, 2010; Fleming & England, 2000; Paloniemi et al., 2015). Despite being in line with the ecological obligations of the Habitats Directive, the selection of the areas is highly political, especially in small-island states, like Malta, where spatial aspects of marine use management is a delicate and contentious issue (Schembri, 1999).

Malta has designated a total of 5 MPAs which encompass around 200 km² of the inshore coastal zone. Since 2005, two management plans have been drafted for the Rđum Majjiesa and Dwejra MPAs, and currently a national consultation exercise, which discusses the conservation objectives and fishing measures of the 5 designated MPAs, is underway. In this regard, this study seeks to elucidate the potential implications that the designated MPAs, as new spatial boundaries together with pre-existing 'old' and 'new' maritime uses, may have on the local artisanal fishers. It seeks to highlight important socio-economic challenges and social conflicts that have developed amongst the fishers as a result of shrinking fishing grounds, and raise awareness on the need of catering for these socio-spatial realities within the designated MPAs. Thus, by providing an illustrative and quantitative analysis of the fishing sector's activity within the 3NMZ using an innovative grounded visualization methodology, our research is both ground-breaking and necessary. Specifically we investigate how artisanal fishing interacts with the current marine-use patterns within the 3 NMZ, and elicit the potential predicaments that may arise with MPA designations by addressing the following questions:

1. What are the current spatial challenges that fishermen face in their traditional fishing grounds?
2. What are the likely fishing-related implications of the designated MPAs within the coastal zone?

2. Methodology

This research endeavour, which commenced in 2008

¹ In line with the United Nations Convention on the Law of the Sea (1982), the national government holds jurisdiction of spatial planning within the inshore waters up to 6 nautical miles.

² The protection of fisheries resources within Malta's coastal zone (extending to 25 nautical miles) is implemented in line with the EU Mediterranean Regulation EC 1967/2006 (26) which controls the fishing effort on the fisheries stocks through restrictions on fleet capacity and vessel measures.

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