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# Medieval and early modern trawling fishery in Portugal: a project proposal

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## 1. INTRODUCTION

The fishery is often defined as one of the main socio-economic activities of Portuguese medieval and early modern times (Marques, 1987; Marreiros, 1996; Madureira; Amorim, 2001; Silva, 2008; Dominguez, 2021). As the Portuguese coast is constituted by a variety of environments, each of them requires the use of different techniques, which led to the introduction of a diversity of fishing methods (Pedrosa, 1985; Madureira, Amorim, 2001). Coastal trawling is employed in coastal beaches, lagoons and estuaries with immerse and submerse sand floors (e.g. Souto, 1988; Pereira et al. 2014). This is a traditional art that has ancient roots, and it is still very important for those who depend on the sea for subsistence, the fishermen of coastal communities (Pita et al. 2020; Souto, 1998; Nunes, 2005). Moreover, fishing is not just a means of ensuring subsistence. It's a heritage that comprehends material and immaterial aspects with increasing relevance to local stakeholders (Bastos et al. 2020). For instance, “arte-xávega”, an artisanal trawling fishing technique was, in 2017, inserted in the National Inventory of Intangible Cultural Heritage, due to its cultural, economic, and tourist value (INPCI, 2017). Other proposals are expected to be presented to indicate it as UNESCO world heritage. Socio-environmental issues such as climate changes, overfishing, patterns change in fish distribution, coastal tourism intensification and human occupation, and pollution-related issues, amongst others, are contributing to the diminishing or even disappearance of ancient fishing communities and their historical heritage. This problem it is being addressed by several entities and studied by distinct scientific actors (Pascual-Fernandez et al. 2020). However, there are few analyses concerning the history of medieval and modern fisheries in the Portuguese case (Dominguez, 2021). Such a situation does not allow to fully understand the activity development throughout time to perceive the present problems and look for ways to overcome them. History is important to such a task since society only values aspects of which it is aware and for which it nourishes some connection. This presentation will discuss the importance of implementing an interdisciplinary project to unveil the history of trawling and the lessons that it may give us to face modern sustainability problems.

## 2. METHODS

Medieval and modern times were marked by climate oscillations and an increase of human interventions in the ecosystems, which resulted in coastal changes, forming sandy spits and lagoonal environments (e.g. Dias, 2005; Bastos, 2015). As these were sheltered areas, with fish abundance, and in some cases, with the possibility of salt production - which was a major product of the conservation of freshly caught fish - they become attractive and benefitted trawling usage (Pereira, 2012, 2019; Pereira et al., 2015). Therefore, our research hypothesizes that this fishery art introduction and development resulted from a very specific entanglement between natural and human drivers. The analysis of those drivers, relating proxies obtained through historical sources and natural sciences knowledge produced by other scientific areas such as geology, climatology, or biology, must be considered. For this purpose, this project will consider the possibility of new approaches and results that can be obtained through an analysis on the scope of environmental history, considering this scientific area methodologies (e.g. Worster, 1991; Winiwarter, 2003; Pádua, 2010) and contributing to the still incipient historical debates concerning long term analysis of the human impacts in coastal areas (McNeill, 2003, 2010; Locher; Quenet, 2009; Guimarães; Amorim, 2016).

### 3. RESULTS

The development of such a research project will enable holistic approaches, contributing to the disclosure of the activities' history as well as a better interpretation of its importance and dissemination to other parts of the globe (for instance through the Portuguese colonization process in Brazil, Cap-Verde, Angola, Mozambique, etc.). Furthermore, it will also allow us to obtain innovative data about past environmental changes once it may provide information to understand differences in the environmental conditions of the maritime and lagoonal ecosystems. By using past examples, such analysis may be useful for planning the future of fisheries, as data results will allow for a better understanding of the impacts of climate variations on ichthyofauna. Therefore, it will contribute to informing present and future strategies concerning the importance of trawling fishery heritage in the wider debate of coastal management and ecological sustainability in face of the climate change. The study of this activity can contribute to ocean literacy involving coastal communities' actors and to understanding the present and future sustainability issues.

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