



Small scale fisheries in Europe: A comparative analysis based on a selection of case studies

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ABSTRACT

Small-scale fisheries have traditionally received less research effort than large-scale fisheries and are generally under-studied in Europe. In spite of their comparatively low volume of catches and economic importance, small-scale fisheries are socially important and an integral part of the European coastal zone. Considering the high heterogeneity of situations and the paucity of quantitative data, we used an analytical methodology based on the comparative method. We carried out an analysis of small-scale fisheries (SSFs) in Europe based on a selection of nine case studies. Our objective was to obtain a comprehensive description of small-scale fleets covering different areas/fisheries/species, encompassing the diversity and specific conditions under which SSFs operate, in order to demonstrate the ecological and social sustainability of this often overlooked fisheries segment. A common approach formulated so that the case studies could be compared with the case histories of other competing users, required that for each set of criteria – technical, biological, socio-economic, and institutional – a set of relevant items and indicators was established. An analysis of characteristics common to the selected case studies is conducted and an attempt made to extend our comparisons to the whole of the European Union. Our results show that (as compared with large-scale fleets, their main competitor) small-scale fleets: (i) are composed of smaller vessels and, consequently, travel lower distances to fishing grounds, and are more reliant on coastal areas; (ii) have smaller crews (although the global employment figure is similar to that of large-scale fleets in Europe); (iii) use mostly, but not exclusively, passive gears; (iv) use multi-purpose fishing approaches, and can change the fish species they target during the year; (v) have lower extraction rates; (vi) have lower total capital investments (including fishing rights), turnover and costs; and (vii) have lower fuel consumption, making them less sensitive to changing oil prices. Dependence on subsidies is lower (viii). Involvement in fisheries management is variable, conservation and access regulation measures are largely local in origin. For the selected case studies, the most significant competitors are large-scale fleets, and recreational fisheries, but other sources of interaction (water quality, invasive species, etc.) cannot be ignored.

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1. Introduction

The main requirement for the sustainable development of fisheries is the present and future well-being of the bio-ecological system, the human system and the management process (Garcia

et al., 2008). Knowledge on these aspects for SSFs in Europe is generally limited (Symes and Phillipson, 2001; Battaglia et al., 2010), even though the SSF are strongly represented in all European Union member states. Conventional fisheries assessment systems, developed for large-scale fisheries, do not provide an adequate basis for the management of SSFs because they assume a relatively simplistic relationship between the productive capacity of the resource and the extractive capacity of fishing fleets (Garcia et al., 2008). A management scheme based on reference points such as Maximum

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Sustainable yield, has little meaning when the necessary information on fleet structure, fish abundance, fishing mortality and regulation are missing. The need to improve our knowledge about SSFs in order to secure their sustainable development is increasingly recognized (FAO, 1995; Chuenpagdee et al., 2006; Salas et al., 2007; Chuenpagdee, 2011). Combining enhanced information on SSFs and the use of a comparative approach is a useful step forward in analysing the current circumstances – technical, biological, socio-economic and institutional – conditioning this activity with regard to its immediate competitors for space or the resource. Combining such assessments with an effective advisory process should help improve the outlook for a type of fishery that is especially vulnerable to globalization, modernization and increasing pressure on resources (Garcia et al., 2008).

SSFs have been generally neglected in Europe by fisheries scientists and management at national and supranational levels. This neglect arises from an underestimation and under-appreciation of the social and economic value of the contribution of SSFs to societal well-being (Garcia et al., 2008). Although SSFs are often ignored or marginalized because of their comparatively low economic value (Guyader et al., 2007a), they are important in terms of employment, and may be locally important in economic terms. They reinforce the attachment people feel for their territory, enhancing social stability in rural and peripheral areas.

Taking an overall vessel length of 12 m as a practical delimitation between small-scale and large-scale fisheries in Europe (EC, 2006), ca. 70,000 (or 84%) of the 25 member states' fleets in the European Union can be considered as SSF, providing direct employment for ca. 100,000 people (Guyader et al., 2007a). SSFs are present all around European coasts, and have local socio-economic importance in peripheral and ultra-peripheral regions. The high number of fishing vessels involved in SSF and the distribution of this fleet along an extended coastline make the monitoring of the SSF fleet segment extremely complex (Leonart and Maynou, 2003).

Despite the lack of knowledge about their structure and functioning, their social importance and specificity are often recognized in terms of employment or with regard to their supposedly limited impact on resources, but these references are made usually in generic terms (EC 2001), probably because the exact delimitation of SSFs is neither easy nor necessary. Johnson (2006) identified two dimensions to fisheries: the social organization of production, and the spatio-temporal dimension of operations, contrasting small-scale and large-scale fisheries. Based on this scheme, SSFs in Europe are composed of relatively small fishing groups with a low level of division of labour, and fish products are mostly destined for local sale. In addition to small size, the vessels are owner-operated and require relatively low capital investment as compared to large-scale vessels. Small-scale fishing vessels use a wide variety of fishing techniques to target a wide array of seasonally changing resources, although their overall catch is generally low. This relatively low catch has, however, a high unit value and the product is often destined for tourist markets or local markets with high purchasing power in the EU. Fishing is conducted relatively near to shore and fishing operations last usually one day or less (a radius of operation within 12 nm of home port is often added to the definition of SSFs). Due to an assumption that they have a relatively low economic impact and volume of catches, SSFs are not regularly monitored by national or local administrations.

The main problem regarding the management of SSFs is that the complexity of the sector and the lack of systematic studies lead to the formulation of assumptions, rather than the presentation of the intangible elements that define the sector's profile at EU level. An evaluation of the assumptions concerning the nature and role of the SSF is of crucial importance for the management of these fishing activities, especially if they require special treatment for the

purpose of establishing management plans (Campbell and Pardede, 2006; Defeo and Castilla, 2005).

Given the pressures on the fishing industry today at European level, for example the over-exploitation of fish stocks, overcapacity of fleets, energy dependency, and market globalization (EC, 2009), SSF may, in actual fact, be in a strategically favourable position in the future compared to other sectors of the industry. The requirement to develop environmentally friendly fishing methods favours the use of static fishing gears, these being the predominant gears used by European SSF. The fact of adding value to fresh products of good quality and their differentiation on the market – within the context of a fiercely competitive international trade with imports to the EU on the increase – may also give these fleets a competitive advantage. Fishing costs, especially fuel cost per unit of production, may also be lower in SSF using passive gears. SSF may also be favourably situated in terms of regional planning or, equally, at an advantage in view of the fact that they maintain a primary activity in coastal zones all along the year. As the mobility of SSF is assumed to be limited, and the exploited resources are confined in many cases to within 12 nautical miles of the home port, SSF management could be implemented in a context of maritime spatial planning. At present, SSF conform both to national regulations within the provisions set out under the Common Fisheries Policy (CFP) for vessels in the 0–12 m overall length segment, and to CFP regulations on fleet capacities and technical measures. To date, SSF have not been identified as a special case, and in policy terms have largely been ignored by Europe and sometimes by the member states. The vacuum in policy may have left SSF exposed to the “race for fish” and so to competition from within the sector, and also to pressures from other sectors such as large-scale fleets, recreational fishing, tourism, aquaculture, and other users of the coastal zone and activities carried out on land. An evaluation of SSF specificities (EC green paper 2009) examining their strengths and weaknesses, the general context for the preservation of fish resources and ecosystems, and economic and social components has already drawn attention to the need for a specific framework for the management of the SSF.

The aim of this paper is to analyze the status of European SSFs based on a selection of case studies, following a comparative approach of selected indicators. This analysis explores several important dimensions: technical, biological, socio-economic and institutional, and studies conflicts arising from interactions with other competitors: large-scale fleets, but also recreational fisheries, aquaculture, aggregate removal or wind farms, coastal development, ecosystem conservation, etc.

2. Approach framework and methodology

The methodological framework relies on the principle that a comparative approach to the SSF will reveal useful elements about the main common features characterizing all, or at least the vast majority, of these fisheries. The use of the comparative approach has been suggested by Garcia et al. (2008) in the framework of an Integrated Assessment and Advisory process advocated for SSFs. Nine case studies covering a large range of gears and *métiers*¹ were selected in order to get a better picture of the diversity and specific conditions under which SSF are operating. The selection of the case studies was mainly governed by the availability of data. As required by the European Commission in the call for tenders for the study

¹ A *métier* is “a group of fishing operations targeting a similar (assemblage of) species, using similar gear, during the same period of the year and/or within the same area and which are characterized by a similar exploitation pattern” (European Commission Decision 2010/93/EU, Appendix 1 Chapter 1, p.9). Identification of different *métiers* is however not always straightforward in practice (Deporte et al., 2012).

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