

# How the interplay between social capital creation and adaptive arrangements can impact the resilience of small-scale fisheries in different European contexts

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**Abstract:** *European small-scale fisheries are confronted with strong decreases in the number of people engaged in capture fishing, growing competition from less expensive extra-EU markets, rising operational costs, strict regulations and stocks depletion. Therefore, many small-scale fishers strive to maintain or increase their income using different strategies. In this respect, we argue that new and diversified institutional arrangements combined with social capital building can help reach long-term economic sustainability for small-scale fisheries businesses, as well as the social-ecological resilience of coastal areas. In order to understand and analyse the multiplicity of strategies applied by small-scale fishers - including expansion towards non-productivist activities - this paper aims to study the role of new institutional and collective arrangements based on small-scale, traditional, quality orientated, multifunctional as well as non-fishing activities. Using a case study approach, we have analysed - in three different geographical contexts of Europe (UK, Greece and Italy) - how the interplay between the creation of social capital and building adaptive arrangements in selected small-scale fisheries provides relevant prerequisites for resilience.*

**Keywords:** *Small-scale fisheries, Primary producers, Sustainable management, non-productivism, Institutional arrangements, social capital.*

## Background

The drastic reduction of fish stocks is associated with concurrent overfishing, climate change, ocean acidification as well as agriculture- and breeding-driven eutrophication of coastal waters. Policy efforts to reduce stock depletion seem not to have considerable success, attributed to Common Fisheries Policy design and implementation deficiencies (Veiga et al., 2015, Salomon et al., 2014). Despite all efforts, the global state of marine fish stocks has not improved in the European Union and no sufficient data exist for 50% of the managed stocks while for the rest, according to existing data, 40% of stocks are still being fished beyond their Maximum Sustainable Yield (Salomon et al., 2014).

Within this general context, European small-scale fisheries are confronted with strong decreases in the number of people engaged in capture fishing (FAO, 2016), growing competition from less expensive extra-EU markets (Crona et al., 2016), rising operational costs, strict regulations and stocks depletion (Higgins et al., 2008; Cardinale et al., 2013; Urquhart et al., 2014; Vindigni et al., 2016). Therefore, many small-scale fishers strive to maintain or increase their income using different strategies. In this respect, direct marketing arrangements can enhance the ex-vessel value of seafood as well as the profitability of sales operations for small-scale fishers, since they can bypass fish traders and capture more of the value added obtained from the premium prices paid by customers who recognise the value of

locally caught fish. However, as the nature of fishing business is changing (Olson 2011), small-scale fishers are also confronted with both new constraints and opportunities to interact with actors - such as other fishers, consumers, restaurants and wholesale buyers – and thus to be embedded in complex, dynamic and multiple networks, or value chains, of supply and trade that link production to consumption, involving value-adding processes and employment creation along the way (Jacinto and Pomeroy, 2011). Such marketing diversification can be implemented with the aim of increasing business income, and be combined with other strategies such as offering touristic services and/or adding value to their catch by improving their environmental performance, thus promoting producer reputation, while maintaining the fishers' original occupational status.

The diversification of the productive activities can, therefore, help reach long-term economic sustainability for fisheries businesses, as well as the social-ecological resilience of coastal areas (Roussel et al., 2011). Diversified rural activities - that detach economic gain from primary production (Marsden and Sonnino, 2008) and contribute to the management of landscape and natural resources, as well as to the socio-economic viability of rural areas (Renting et al., 2009) - can be considered as multifunctional practices that bring adaptation capacity to fisheries in the form of non-productivist patterns of activities. Fishers engaged in 'non-productivist' activities are still engaged in catching (producing) fish, but the emphasis on quantity is reduced and there is a greater focus on the qualities of the fish being caught. These qualities may be in terms of the intrinsic quality of the fish involved, or the social, environmental or cultural context within which the fish was caught. Analysing the practices and strategies of small-scale fisheries through a non-productivist framework also helps to improve understanding of their resilience and thereby sustainability (Salmi, 2015).

Such non-productivist strategies involve particular institutional arrangements that represent promising new strategies for small-scale fishers as they attempt to reposition and reconnect themselves, as both producers, dealers, members of collective organisations, environment actors and tourism managers, in crowded and often highly competitive markets and in depleted marine systems. In this respect, building on (van der Ploeg et al., 2008) *“institutional arrangements can be understood as structures and mechanisms of social configuration and cooperation. Institutions are most commonly understood as sets of regulations, laws, norms or traditions that are shaped through human interactions and that often are manifested in an organizational structure (...). Institutions can also be seen as social constructions, artifacts of a particular time, culture and society, produced by collective human choice. They emerge, develop and function in a pattern of social self-organization, which goes beyond the conscious intentions of the individuals involved. In terms of rural development processes, institutions have the task of solving coordination problems and supporting cooperation. They can consist of legal frameworks that allocate specific rights to a certain actor or they can consist of values that, to a certain extent, regulate the actions of organizations/actors. A key question is which institutional arrangements provide effective incentives for building trust and facilitating collective action”*.

Connections between actors, in large part based on the development of social capital, are concurrently the causal factors and the outcomes of new business arrangements. Social capital is understood as *“the ability to get things done collectively. Social capital is a co-operative way of getting things done and is embodied in the ability of individuals, groups, organizations and institutions to engage in networks, to co-operate, to employ and use social relations for a common purpose and benefit. Thus, social capital contributes to achieving goals on the basis of relationships that exist between different actors, be they individuals, groups, firms and organizations”* (van der Ploeg et al., 2008).

If on the one hand we argue that the need to develop new institutional and non-productivist arrangements is likely to bring fishers to enlarge their relationships with other actors (and, thus, their social capital), concurrently – on the other hand – we assume that the existence of a large social capital would facilitate fishers' adoption of such new institutional arrangements. Investigating the potential for building and drawing upon social capital to support fishery and industry sustainability will contribute to the understanding of the influence social capital may

have on the long-term economic viability and resilience of the social-ecological systems to inform fisheries policy and economic opportunity.

## Aims

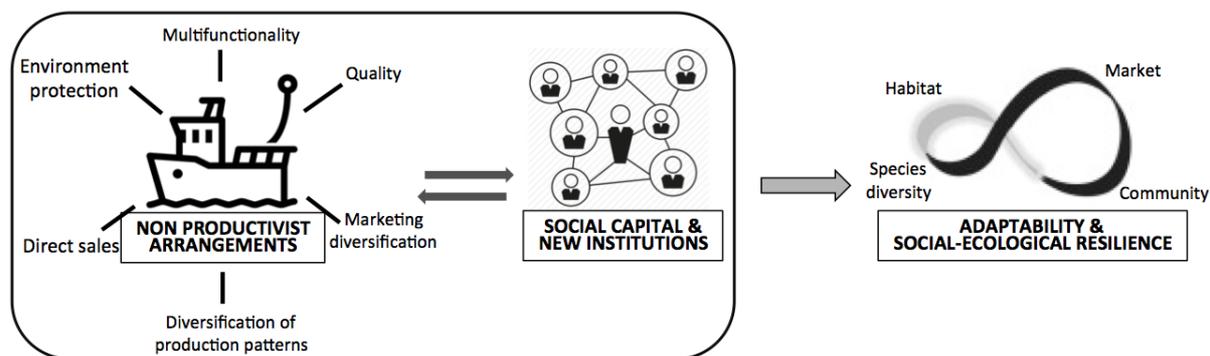
In order to comprehend and analyse the multiplicity of strategies applied by fishers' especially when these also include expansion towards non-productivist activities, this paper aims to study the role of new institutional and collective arrangements - based on small-scale, traditional, quality orientated, multifunctional as well as non-fishing activities. Using a case study approach, social capital theory and resilience thinking were applied, since the authors recognise the interdependence and co-evolution of these two processes, namely the creation of social capital and building adaptive arrangements and, therefore, their high relevance as prerequisites for resilience (Olsson et al., 2004).

## Theoretical approach

Non-productivist pathways, in both fisheries and agriculture, are characterized by practices that deepen traditional production systems and are usually relatively extensive, thereby being often environmental friendly, they essentially contribute to multifunctionality (Wilson and Burton, 2015). Non-productivist activities involve catching fish but – beyond the quantities caught - with a greater emphasis on the intrinsic quality of the fish products, as well as on the characteristics of the social, environmental or cultural context within which the fishing activity is embedded (Prosperi et al. 2017). Such non-productivist activities lead to new forms of connections and collaborative relationships with other actors - directly or indirectly involved in the fish value chain or related to other sectors (e.g. tourism, etc.) – that represent a set of socioeconomic practices characterised by a particular regularity and that are likely to be identified as “non-productivist arrangements”.

Similarly, Stoll et al. (2015) conceptualised, and then empirically observed, that the capacity to build and nurture cooperation among fishers - including the ability to communicate with outsiders connected to the value chain - can enable small-scale fishers to engage in new practices and opportunities such as creating markets and broadening customer targets, as well as tackling nonmarket issues that affect the social-ecological systems within which they are embedded. Moreover, such adaptive agency and ability represent the key pillars of general resilience and of the long-term sustainability for the social and ecological components of dynamic systems associated with marine resources (Folke et al. 2010, Westley et al. 2011). Analysis in this paper, therefore, aims to depict how non-productivist arrangements can represent a type of institutional starter to build capacity among fishers and mobilize social capital in ways that contribute to the social- ecological resilience of the systems of which they are a part.

Building on a previous framework developed by Stoll et al. (2015) - fishers adopt non-productivist strategies to earn more money for their catch, as well as for related non-fishing activities, to compensate for the low ex-vessel prices received from fish traders. In building and carrying out such non-productivist arrangements, fishers must develop a set of rules to manage the practices and procedures of these businesses and, in the mean time, increase their communication skills so that they can successfully interact with and keep customers (often new ones). These practices make use of the existing social capital and also lead to the enhancement of social capital that goes beyond the relatively simple activity of collecting and supplying seafood (figure 1).



**Figure 1.** Conceptual model describing – for small-scale fisheries activity - the interplay between non-productivist arrangements and social capital construction, with the aim of increasing resilience (modified from Stoll et al., 2015 and Stoll et al., 2016).

Collective arrangements have been stated among the design principles for the sustainable governance of social-ecological systems (Anderies et al, 2004). Collective action can be promoted through practices aimed at bonding social capital, while connection with new ideas, information and external resources, can be enhanced through processes oriented towards bridging social capital. This coexistence of social capitals is considered directly relevant to increasing social-ecological resilience, since working cooperatively and gaining access to new resources and new ideas, can really help fishers to overcome the two main constraints of the small-scale sector: lack of cooperation and financial resources (Stoll et al. 2015).

## Methods

In a first step, a desk-based analysis and context-specific literature review were conducted in relation to selected small-scale fisheries in the three case study regions (Kavala-GR, Cornwall-UK, Tuscany-ITA) at NUTS level 2. A second phase involved designing and conducting semi-structured in-depth interviews with primary producers and stakeholders of the fisheries sector in the case study regions. In addition, focus groups were carried out with fishers in the Kavala and Cornwall case studies. The three case studies comprehend namely the small-scale fishery sector in Tuscany, Italy; purse seiners and small trawlers<sup>1</sup> operating in the Kavala regional unit and its neighbouring ports, in Greece (small pelagic fish in Northern Greece); and the Cornwall inshore fisheries sector in the UK (figure 2).

<sup>1</sup> Purse seiners and trawlers in Kavala can be considered small-scale fisheries in terms of business economic size, staff they employ and the area they cover.

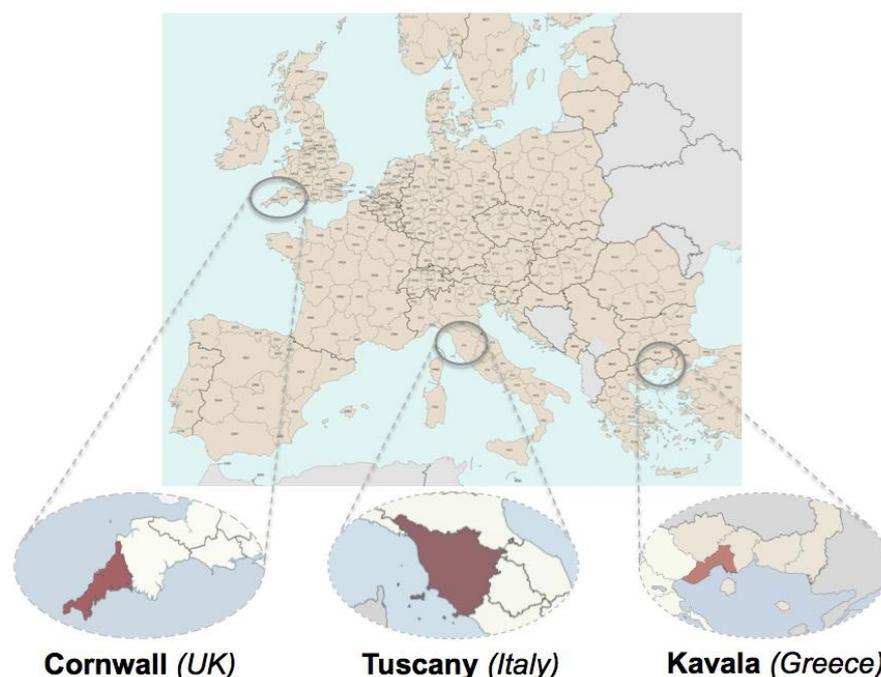


Figure 2. The geographical areas of the three small-scale fisheries studied, i.e. Cornwall (UK), Tuscany (ITA) and Kavala (GR)

## Findings

To more fully elucidate the relationship between non-productivist arrangements and related institutional emergence, with social capital production, and social-ecological resilience, this section is structured such that it follows the same format as the conceptual model, starting with a description – for each case study - of how the economic potential of different fishing-related non-productivist activities has incentivized participation and ending with consideration of the link between the social capital and social-ecological resilience (table 1).

### Small-scale fisheries in Tuscany (Italy)

Small-scale fisheries in Tuscany are characterised by high geographical fragmentation of fishers. It is also recognised that there is intense competition within small-scale fisheries, as well as between small-scale fishers and trawlers. Therefore, small-scale fisheries are isolated and not powerful in the marketplace. Restaurants could represent an important market channel for small-scale fisheries, but as with wholesalers the transaction costs for payment can discourage fishers from selling to restaurants. There are also concerns that there are insufficient people coming into fishing, with a lack of human resources being trained or willing to become fishers. Moreover, the economic crisis over the last decade has impacted the local fisheries sector in terms of price levels, demand and volatility.

Such a critical situation for small-scale fisheries has induced many fishers to seek out new markets, differentiation strategies, products and engaging in quality and non-fishing activities. This has led to a number of adaptation and transformation strategies. For example: diversification activities, short supply chains and direct sales, investing in technological innovation and increasing international sales, selecting more valuable catches, and developing more recreational activities such as pescaturism. Some fishers have developed artisanal activities such as transformation and processing in order to create added value from his/her catches. Small-scale fishers have also attempted to create new market channels such as sales to solidarity purchasing groups, or directly to consumers through a consortium. Thus, short food supply chains have been developed, including additional processing at a

local level in order to create added value. Also, a growing interest in pescaturism is seen as providing the opportunity to open up new pathways, diversification and multi-functionality.

These activities – namely sales through community supported short food supply chain, fish processing and pescaturism – have allowed fishers to integrate and diversify their income as well as to provide an opportunity for new employment, releasing the pressure on fish stocks. From interviews with fishers engaged in fishing-tourism, it emerged that this activity can represent an important strategy of diversification of the fishery activity.

More specifically to our purpose, it emerged that these non-productivist activities have allowed fishers to be integrated in new networks of actors and, thus, to develop many new contacts and feeding social capital. For instance, with regards to a fishing cooperative in Carrara (Tuscany) that has shifted from business-as-usual fishing to quality oriented fishing and processing for sales to solidarity purchasing groups, it was observed that the use of organic ingredients in food processing have led to the participation of the cooperative in organic fairs and, thus, has created the opportunity to establish new business arrangements with new actors, allowing for integrating market channels within the “organic network”. Another example is represented by the activity of pescaturism through which creating connections with actors and customers can be very easy due to the nature of such convivial activity. In particular, in more than one case, it was observed that pescaturism could be a promotional factor for selling to solidarity purchasing groups. In fact, pescaturism customers who were initially only tourists during the summer, have then become fish buyers during the winter and vice versa, thanks to the connections that the fishers have established with their customers. Often this double links between pescaturism fishers and their customers is strengthened through solidarity purchasing groups that – for their collective and supportive nature - represent a key factor for creating and enlarging social capital and opportunities for new arrangements. Furthermore, the additional activity of processing fish caught and selling it directly to consumers allow, for the fishers, to embed and capture the value added, avoiding intermediaries.

Concurrently, these quality and environment oriented goals of production imply a decrease in catches as well as the respect for the seasonality of the species, contributing to the protection of the marine resources. Therefore, such enriching social/business interactions provide the opportunity to build new arrangements characterised by efforts on quality, environment protection and multifunctionality, leading to both economic long-term sustainability of fishing and resilience of social-ecological systems.

### **The inshore fishing sector in Cornwall (UK)**

The inshore fishing sector in Cornwall is characterised by strong individualism, lack of trust and competition among fishers. Generation renewal is difficult as the sector is not attractive. Inshore fishers traditionally sell most of their fish via the harbour markets, where they are price takers. In general, there is minimal cooperation within the local sector amongst fishers and, where coordination does take place, it is likely to be within families. Similarly, in terms of vertical coordination, despite some evidence of fishers working with local processors, most of the inshore fishers in Cornwall sell their catch directly through the harbour markets.

Within this framework, the Cornwall and Isles of Scilly Fisheries Local Action Group (FLAG) has been a critical actor in terms of supporting attempts to improve the quality of fish caught locally, as well as adding value to the fish caught, through valorising the “story” of the catches including highlighting sustainable fishing practices. The recent recognition of the quality and traditional origin of the Cornish fish, allied to better prices, has attracted more and more fishers to access Cornwall’s local markets. In this respect, Cornwall is luckier than most in that there are a number of high-end restaurants and foodie hotspots, such as Padstow. Moreover, in some cases, in order to circumvent the middleman they use social media to make direct contact with buyers, with some fishers now selling direct to buyers in London. Selling to London (and indeed other large cities) has the potential to realise considerably greater prices for the fish sold, in that London-based restaurants and fishmongers have more buying power than their Cornish equivalents. In this respect, the catch of inshore fishers was

recognised as having the potential to be of the very highest quality available (in that is it usually landed on a daily basis), although this necessitates that the fishers involved look after their fish. The need for a new kind of competition oriented to quality and the necessity to differentiate the market have encouraged small-scale fishers to build and develop contacts along the value chain. The construction of such social capital allows for catching less quantity of fish, whilst earning the same or a higher level of income, thereby helping to ensure the long-term viability of the fishing activity for small-scale fleet. For example, developing sales to local restaurants and to London necessitates developing a good personal relationship with the head chef or dealer, to the extent of calling them every day to tell them about the catch that is available. There are also examples of cooperation amongst local fishers, whereby they pool their catches in order to ensure that they can supply these new outlets with a regular supply of fish, or fish products.

### **Purse seiners in Kavala (Greece)**

The purse seiners and small trawlers sector in Kavala suffers from a difficult generation renewal due to a low attractiveness of the sector. The weak tradition of cooperation is further exacerbated by strong individualism, competition and lack of trust among fishers. Furthermore, the state has recently dismissed the fishers' federations and the confederation of coastal fisheries. Fishers are obliged to deliver their catch to fish markets, where a daily auction takes place. Each fisher has an informal, typically oral, agreement with a dealer who usually acts as an intermediary between the fisher and the buyer. The fisher, therefore, has no control over the price of his/her catches: as such, fishers are price takers. This market structure, the unbalanced distribution of power within the value chain, along with the traditional individualism of fishers and a lack of trust among producers, result in an extremely low rate of fish products that are managed by cooperatives and collective fishing organisations (10% against a 60% EU average). Fishers – who are hunters rather than simply producers - openly admit that they do not want other fishers to know where they fish, what they fish for, or what money they get for their fish. As such, there is a widespread impression that co-operation amongst fishers is very difficult, even among small inshore fishers. Moreover, one should stress the additional difficulty of the unclear boundaries for the fishery system in the North of the Aegean, since the rights to the fish stock are rather loosely defined (Anderies et al, 2004), thus debilitating any effort to establish a sustainable management system. ,

However, in the last two years, the entire purse seiners' fleet of 18 boats in Kavala has engaged in an informal group and fishers have been trying together to get the MSC (Marine Stewardship Council) certification of sustainability for their catch of sardines and anchovy. This initiative has also entailed the involvement – and thus the creation of new connections for fishers – with different actors both inside and outside the production system, such as experts, local authorities, an NGO as well as a retailer, in order to manage and monitor the whole fishing effort besides the fishers themselves. This collective initiative has been received in a favourable manner by consumers and adequately promoted by the retailer. Thanks to this collective engagement and social capital building, local consumers have started to be aware of the activity of local fishers. Therefore, the retailer partner integrated the certification project in its corporate reputation strategy, through an extended nationwide campaign, creating vertical synergies. The resulting social capital was mobilised by the group fishers in order to promote their interests. For instance, two years ago there was a price drop due to excessive supply, prompting the 18 purse seiners from Kavala to agree to a single landing per day. The hope was to keep prices more stable and at higher levels. Therefore, a co-operative initiative intended to lighten the fishing efforts – with the aim of improving the potential value added and the protection of marine resources - is now widely suggested and adapted by regulatory authorities as a possible solution to the problems faced by producers within the whole food supply chain in Greece. Nowadays, the amount of fish delivered to the auction is only 30% of what it was two years ago. Furthermore, in addition to one landing per day, the fishers of Kavala have also decided not to fish on Saturdays. This practice seems to function well amongst the local fishers. This could be perceived as a successful strategy

adaptation in the face of an external pressure. The need for the adoption of non-productivist arrangements (e.g. the MSC gathering initiative, etc.) has led to the development of social capital and permitted the development of a concrete initiative that contributes to the economic sustainability of fishing, as well as to the resilience of the social-ecological marine system.

## Discussion and conclusions

According to Stoll et al. (2015), and building on the analysis of three different small-scale fisheries' case studies, we argue that non-productivist arrangements - implemented to respond to restricting policy and market conditions - in order to be established need pre-existing contacts with actors or to build new social capital through the ability to communicate with actors or outsiders connected in the value chain. When successful, these new institutional arrangements imply - in a co-evolutionary process - to engage in new practices and opportunities such as creating markets and broadening customer targets, as well as tackling nonmarket issues that affect the social-ecological systems within which they are embedded. For the nature of the production activities underneath these institutional arrangements, such adaptive agency and ability represent the key pillars of general resilience and of the long-term sustainability for the social and ecological components of dynamic systems associated with marine resources. Therefore, by adopting and establishing non-productivist arrangements fishers are likely not only to earn more money from their catch, as well as for related non-fishing activities, but they have also the opportunity to develop a set of rules to manage the practices and procedures of these new businesses and, in the mean time, increase their communication skills so that they can successfully interact with and keep customers.

Social capital – including social cohesion, mechanisms of reciprocity, 'positive' social norms, strong social fabric, local 'good' governance, or capacity for collective actions – has been already considered as a critical element of resilience (Adger, 2003; Béné et al. 2016). Furthermore, robust social capital, founded on norms, trust, communication and connectedness between people within differing networks and groups, is considered an important attribute in sustaining fisheries and in achieving sustainable fisheries management, since it can support fishery stakeholders during times of challenge and change such as institutional arrangements and economic and resource fluctuations (Schaffer, 2016). However, in particular cases it was observed that social capital can lead to exclusion and can reduce household's or community's ability to adjust, adapt or transform (Putzel, 1997; Cleaver, 2005; Coulthard, 2011; Béné et al. 2016).

In the case of pursue seiners and trawlers in Kavala (Greece), a rather complicated fishery system due to the unclear boundaries, the building of social capital through horizontal and vertical co-ordination seems to have resulted in the adoption of a strategy that increased the resilience of the local system. At the same time, the success of the collective response to market pressures lead to further "accumulation" of various forms of social capital. It has resulted in the establishment of a novel institution oriented towards enhancing the quality of catches and the sustainability of fishing, and, therefore, the joint management committee and the building of a nation-wide reputation.

In Cornwall (UK) the quality and origin of catches from inshore fisheries have been promoted through local supportive and marketing actions. Concurrently, small-scale fishers have intensified their contacts with restaurants for direct sales through the use mobile phones and social networks. The combination of these actions - mostly oriented to enhance the quality of catches and reducing the fishing efforts - has led to build new non-productivist arrangements and to further creating social capital likely to contribute to the business sustainability and the resilience of marine system.

The activity of small-scale fisheries in Tuscany (Italy) is characterised, in some cases, by the adoption of diversification strategies – such as direct sales in short supply chains, food processing and pescaturism - that have led to build non-productivist arrangements and to enlarge the social capital of fishers through new relationships and business activities. In turn,

the joint effect of these new institutional arrangements is likely to impact positively the resilience of marine resource and the long-term viability of the fishing business.

**Table 1.** Conditions/pressures, opportunities, new arrangements and resilience outcomes of three different non-productivist and collective initiatives within small-scale fisheries of three case study areas.

|  | <b>Cornwall (UK)</b>  | <b>Kavala (GR)</b>   | <b>Tuscany (IT)</b>   |
|--|---|--|---|
| <b>CONDITIONS and PRESSURES</b><br>exerted on local fisheries  | <ul style="list-style-type: none"> <li>- Difficult generation renewal</li> <li>- Low attractiveness of the sector</li> <li>- Individualism and internal competition</li> <li>- Historically fishers have been price-takers, which is a mindset that needs to be changed</li> <li>- Lack of trust among fishers</li> </ul>   | <ul style="list-style-type: none"> <li>- Difficult generation renewal</li> <li>- Low attractiveness of the sector</li> <li>- Individualism and internal competition</li> <li>- Fishers are price-takers</li> <li>- Lack of trust among fishers</li> <li>- Weak cooperation tradition</li> <li>- Government dismissed the confederation of fisheries</li> </ul> | <ul style="list-style-type: none"> <li>- Difficult generation renewal</li> <li>- Low attractiveness of the sector</li> <li>- Individualism and internal competition</li> <li>- Fishers are price-takers</li> <li>- Lack of trust among fishers</li> <li>- Fragmented local fish sector</li> <li>- Restaurants are not considered good buyers</li> </ul>   |
| <b>SEIZED OPPORTUNITIES</b><br>(and related strategies implemented)<br><i>FOR BUILDING SOCIAL CAPITAL &amp; NEW INSTITUTIONS</i> | <ul style="list-style-type: none"> <li>- Cornwall Fisheries Local Action Group as key actor in developing new marketing</li> <li>- Cornwall Wildlife Trust and Cornwall Good Seafood Guide, support promoting sustainability of fisheries</li> <li>- Emerging social media are used to communicate with buyers and cut out middlemen (developing fruitful relationships with restaurants, exchanging information on available catches)</li> <li>- Brexit is encouraging reflection on new markets for fish, vis-à-vis potential loss of EU markets</li> <li>- Facilitating access to 4.5 million/yr tourists</li> </ul> | <ul style="list-style-type: none"> <li>- Existing joint efforts for a MSC certification with fishers, experts, local authorities, an NGO and a retailer.</li> <li>- The economic crisis pushed fishers to find collective and alternative solutions</li> <li>- Taking advantage of consumers' awareness and retailer interest</li> </ul>                       | <ul style="list-style-type: none"> <li>- The economic crisis pushed fishers to find collective and alternative solutions</li> <li>- Using and investing in new technological innovation</li> <li>- Taking advantage of new market demand, consumption patterns and emerging consumer awareness (more valuable catches, developing multifunctional and recreational activities, processing seafood, developing short food chains)</li> </ul> |
| <b>NON-PRODUCTIVIST AND COLLECTIVE ARRANGEMENTS DEVELOPED</b>  | <ul style="list-style-type: none"> <li>- Common improvement of the quality of local catches</li> <li>- Valorisation of the “story” of catches, promoting traceability and sustainable fishing practices across the value chain</li> <li>- Coordination between fishers and local/London restaurants</li> <li>- Innovation in local processing and throughout the value chain, to increase value added to seafood</li> </ul>   | <ul style="list-style-type: none"> <li>- Valorisation of the catches, by improving traceability and sustainable fishing practices</li> <li>- Common and consensual setting of rules through a stakeholder joint committee</li> <li>- Building an informal group of purse seiners and trawlers to co-ordinate efforts.</li> </ul>                               | <ul style="list-style-type: none"> <li>- Development of community supported short food supply chains</li> <li>- Improved seafood processing at a local level in coordination schemes between actors</li> <li>- Development of coordinated recreational activities such as pescaturism</li> </ul>  |
| <b>SOCIAL-ECOLOGICAL RESILIENCE OUTCOMES</b>   | <ul style="list-style-type: none"> <li>- Reducing fishing efforts and protecting fish stocks</li> <li>- Increasing price profitability</li> <li>- Creating and sharing awareness about sustainability issues for fisheries</li> </ul>   | <ul style="list-style-type: none"> <li>- Restricting and reducing fishing through collective actions and decisions resulted to keep profitable prices and protecting stocks</li> <li>- Co-operatives are widely suggested as possible solution to problems faced by producers</li> </ul>   | <ul style="list-style-type: none"> <li>- Reducing fishing efforts and protecting fish stocks</li> <li>- Increasing price profitability</li> <li>- Creating and sharing awareness about sustainability issues for fisheries</li> </ul>   |

If positive common factors for building social capital and resilience are observable in the three case studies, including the strategy to adopt short food supply chains through direct sales and the shift from quantity to more quality oriented catches, on the other hand also common obstacles emerged against the cohesion of social capital and, therefore, against resilience of marine systems. In fact, in all the three case studies it was observed, within small-scale fisheries, strong individualism and competition between fishers, lack of trust between fishers, weak ability to price control as well as problems in generational renewal for the low attractiveness of the sector. Initiative aimed at encouraging non-productivist activities within co-operative schemes and enhanced interactions between small-scale fishers, and along the value chain, show to be positive prerequisites for establishing social capital and achieving social-ecological resilience of the marine systems. Also, the independent use of communication technology and social media, in some cases, proved to be key, for fishers, in keeping and building relationship and enhance social capital within the value chain. Furthermore, in the three case studies it was interesting to observe that situation of crisis – such as the economic crisis in Italy and Greece and Brexit in UK – might be considered as factors encouraging communication and collaborative initiatives between fishers and with external actors along the value chain.

With the aim of informing fisheries policy and decision-making, through this analysis we are attempting to empirically depict how non-productivist arrangements can represent a type of institutional starter to build capacity among fishers and mobilize social capital in ways that contribute both to the long-term viability of small-scale fisheries business as well as to the social-ecological resilience of the systems of which they are a part.

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