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Small-Scale Fishing and Sustainability. An Ethnographic Approach to the Case of Self-Employed Fishermen in the South-East of Spain

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Abstract: Small-scale fishermen, in contrast to industrial fishing boats, develop a sustainable relationship with their activity from three perspectives: social, economic, and environmental. From this hypothesis, we analyze the ethnographic material obtained in extensive fieldwork (in-depth interviews and participant observation) developed in the four main ports of the region of Murcia (Spain). From this field work the existence of two other types of fishermen (life-modes) besides small-scale fishermen is derived: small entrepreneurs and wage-earners. In different proportions, all three share the consequences of the various reforms to the Common Fisheries Policy (CFP). Despite the similarities, this paper shows different strategies, in each of the cases, that justify their permanence in their activity, taking into account the labor modality, as well as their relationship with the idea of sustainability. Conclusions show that because small-scale self-employed fishermen are involved much more than the two other life-modes in the totality of tasks related to their profession in that they own both the means and relations of production (simple commodity production), they are best placed to achieve social, economic, and environmental sustainability.

Keywords: small-scale fishing; social sustainability; economic sustainability; self-employed; life-modes; ethnography



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1. Introduction

In the last 20 years, European fishing communities have undergone relevant structural changes resulting from the different reforms of the Common Fisheries Policy (CFP), affecting small fishing stocks. In April 2009, the European Commission raised the need to review the latest reform proposed to the 2002 Common Fisheries Policy. Overfishing, excess fleet capacity, the heavy subsidies that this sector had received for years, and its economic fragility constituted the main problems that urged the need for a new reform. Among the instruments that were proposed to solve the problems derived from the over-training of the fishing fleet, we find the implementation of the so-called Individual Transferable Quotas (ITQs). With this mechanism, the European Commission interprets that what to date would have been marine common goods, would be better protected in the long term regulated by the market, becoming transferable and marketable private property [1–3]. In addition, along with these ITQs, the reform offered the possibility of receiving subsidies in exchange for the scrapping of vessels, with the intention of ending a fleet that is understood to be outdated and inefficient.

However, these measures, far from resolving the situation described above, in many cases had a negative impact on fishing communities. In particular, we are referring to the small-scale fishing communities of Europe—Denmark, Iceland, the United Kingdom,

Portugal and Spain, among others—and how, in their case, they have seen this type of activity change, which in these cases also means a specific way of life [4–7].

In 2019, the so-called Green Paper pointed out that overfishing is still a main problem concerning European fishing, and that we may not find significant improvements. In this sense, there is much evidence on how low-impact small-scale operators are negatively impacted by the failure to implement the Common Fishing Policy (CFP) [8]. Moreover, despite the progress made in reducing fishing pressure in Atlantic waters and adjacent seas during the last decade, the Scientific Technical and Economic Committee for Fisheries (STECF) has confirmed repeatedly that the improvements achieved so far are insufficient to meet the Common Fisheries Policy commitments. In particular, in the Mediterranean and Black Sea the situation remains deeply worrying [9].

Considering this particular European political context, which conditions the structure and reproduction of different fishing communities at the European level, this research analyzes the evolution of the fishing communities in the four main ports of the region of Murcia (Spain). We analyze the ethnographic material of fieldwork that has studied the evolution of these communities over the last 20 years. We propose a direct relationship between small-scale fishing, which is mainly practiced in these communities, and the concept of sustainability. In this sense, a threefold relationship is presented: (1) economic sustainability, (2) social sustainability, and (3) environmental sustainability. Our analysis shows that self-employed small-scale fishermen perceive their activity from that relationship of sustainability, which implies a necessary reflection on their present activity and their reproduction as a social, economic, and environmental main actor in this context.

This is a different approach to this phenomenon in the Spanish Mediterranean Sea, since, in general, we find works that either approach this activity from a descriptive perspective, or study the phenomenon of fishing according to its biological characteristics. Therefore, we join other approaches that are interested in the socio-cultural and economic aspects of fishing, in addition to interpreting the relationship established with sustainability from this triple dimension. In addition, the proposed methodology tries to learn the interpretation of the fishermen themselves, so that it can be contrasted with statistics and official sources. The main hypothesis understands the existence of a cultural heterogeneity in fishing activity and in this territory in particular. The ethnography carried out has effectively identified the existence of three types of fishermen in this territory. Each of them describes material and ideological characteristics of their activity, as well as structural determinants such as the type of vessel or the fishing technique used. These differentiations allow us to speak of different ways of being a fisherman in this same territory, and of a different relationship with the concept of sustainability.

Small-scale fishing in this territory is mainly organized around the figure of the self-employed and at the core of family business logic. Given this social, cultural, and economic structure, we analyze this configuration in relation to the assumptions of the so-called life-modes theory [10], which enables us to analyze their configuration from a cultural, economic, and environmental perspective. This theory also allows us to look at the figure of the self-employed fisherman as opposed to the assumptions (expectations, survival, and social reproduction strategies, worldview) of the wage-earner or big fishing companies. In this sense, it would be necessary to attend to the contemporary labor relations system, and how globalization [11–13], and specifically the implementation of common European policies, would condition the way of life of small fishing communities in this case.

As mentioned, the “empirical world” where we develop our hypotheses is the fishery sector. This is a field composed of a varied structure of small and medium businesses, related to different fishing techniques. Therefore, along with this figure of the small-scale self-employed fisherman, we have identified two types of fishermen in this context: small entrepreneurs and wage-earners. In our analysis, we describe the characteristics of each of them, as well as their links and differences.

In the following section, we describe the context in which we developed our fieldwork. We describe the characteristics of the fishing activity in this area, as well as the structural

changes that have occurred in the last 20 years. This is followed by the theoretical framework, where we present the theoretical assumptions that serve us to elaborate our analysis in the next section. Finally, we offer some conclusions that refer to this relationship between small-scale fishing and sustainability, as well as some proposals for the future.

2. Literature Review

In this section, we present the theoretical framework related to the analysis of the material obtained in our fieldwork. First, we give a brief review of the different European fishery policies. Then, we conduct a review of the most relevant literature in the field of fisheries and social sciences. Next, we review the works of interest that link small-scale fisheries and sustainability. Finally, the assumptions of the aforementioned life-modes theory are presented so that we can understand this socio-cultural approach to the figure of the self-employed fisherman.

2.1. Review of the Main Policy Measures in the Context of European Fisheries

In 1970, the Council adopted specific legislation, the Common Market Organisation, and put in place a structural policy for fisheries [14].

In 1979, the power to adopt conservation measures passed from individual EU countries to the EC. EU countries retained powers to introduce limited measures, which are non-discriminatory and necessary for conservation goals.

In 1983, the Council adopted the first basic regulation of the CFP. The regulation included measures for the conservation and management of fishery resources, based on so-called Total Allowable Catches (TACs) and quotas. It also established a concept of relative stability. The 1983 policy also introduced a comprehensive structural policy, with measures to manage the fleet capacity on the one hand, while at the same time granting subsidies for the building and modernization of vessels [15].

From 1985 to 1990, the CFP had to adapt first to the withdrawal of Greenland (in 1985) and then the accession of Spain and Portugal (in 1986) and the reunification of Germany (in 1990). All three events had a serious impact on the size and structure of the European fleet and its catch capacity.

The 1992 revision and the new basic regulation then focused on a “rational and responsible exploitation” of resources, while recognizing the interest of the fishing industry to ensure its long-term development and economic and social conditions and the consumers’ interest, “taking into account the biological constraints as well as respect for the marine ecosystem” [16].

The short-term goals of the 1992 reform were to (1) reduce the fishing to levels consistent with sustainability, (2) reduce the size of fleets to levels consistent with sustainability, and (3) reduce employment in a controlled manner and provide alternative work in fishing-dependent areas. The strategy consisted of a mandatory reduction in fleet capacity in combination with structural measures to alleviate the social consequences (both scrapping subsidies and other social measures). Next to TACs, the concept of fishing effort was introduced to help attain a balance between fishing activities and available resources.

In 1995, the Commission asked a group of experts to review the policy. The group concluded that a draconian reduction of the fleet was urgently needed considering there was 40% overcapacity, a huge disequilibrium between fishing capacity and available resources.

The 2002 reform allowed for some further progress, but did not lead to a sustainable recovery—88% of stocks were still overfished.

In 2008, the Commission launched a reflection on further reforming the CFP, leading to the adoption of a Green Paper on the reform of the CFP the following year. A broad consultation process led to the adoption of Commission proposals for a new Basic Regulation and a new Common Market Organisation in July 2011.

In April 2009, the European Commission, after reviewing the results obtained under the previous Common Fisheries Policy (CFP) of 2002, proposed a necessary reform [17]. This reform of the Fisheries Policy was developed in the so-called Green Paper on Fisheries,

and after its publication a period of consultations and proposals was opened until the end of 2009, so that European governments, institutions, and citizens could plan their objections to it. The results of these consultations were published the following year, and in 2011 the European Commission published its proposal for a new policy for the fishing industry, to be implemented by 1 January 2014.

Overfishing, fleet overcapacity, the heavy subsidies that for years had helped individuals in this sector, economic fragility, and the decline in the volume of fish caught by European fishermen remained the main problems raised in this reform. To overcome these shortcomings, the European Commission proposed a series of instruments that could alleviate or solve them.

After the evaluation of the current control system, the Commission decided in 2018 to initiate a revision of the fishery control system. The overall objective of the revision was to modernize, strengthen, and simplify the EU fishery control system; ensure sustainability; and increase the level playing field in fishery control.

Hypothesis 1 (H1): *The application of European regulations in a homogeneous way in European fishing communities will lead us to similar experiences among fishermen. We will find similar adaptation strategies that, in each case, will depend on the type of fishing practiced.*

2.2. Fishing in Social Sciences: Main Literature

From social sciences, and specifically from the anthropological discipline, the figure of the fisherman has been studied mainly from two perspectives: as a hunter, and in relation to the characteristics of the peasant. In relation to the first interpretation, some authors understand fishing as a special type of hunting due mainly to the different biological nature of the species obtained, and the unpredictable environment in which the activity takes place [18–20]. These authors explain the active nature of fisheries that requires locating and capturing resources that pass through a natural space and alien to man [21]. For their part, other authors understand that their relations with the state, capital, and markets make many fishermen more similar to peasants than to any type of hunter [22,23].

This debate that places the fisherman between hunting and the farmer's own care can be considered to have begun in the early works of Raymond Firth [24]. The work of this anthropologist explains that the goal of all individuals engaged in an economic activity is to maximize their satisfaction. Therefore, from this thesis it is considered that fishermen, like any other economic agent, seek in their activity the maximization of resources. This interpretation is linked to what has been called a *formalist* perspective of economics [25,26], opposed to the *substantivist* tendency that affirms that the formal conception of the economy is not of universal application, and that this interpretation is nothing more than a reflection of the economy in the modern West [27,28].

In a second stage comprising the 1950s and 1960s, we referred to authors who proposed new theoretical models from which they intended to be more dynamic than those applied from classical functionalism [29–31]. The concept of status, used in a static way until that moment, thus contained a new meaning, linking it with the roles of the different components of the crew and the strategies of each of the individuals in this context of fishing.

The third period, starting in the 1970s, involves the recognition of a maritime anthropology inserted in the anthropological discipline. From this moment on, monographic studies became more and more abundant [32,33]. In this sense, some authors tried to overcome the statism of the investigations that were carried out from the formalist perspective, dealing with the analysis of the transformations that occurred in different traditional fishing societies [20]. From this point of view, it is necessary to observe how fishermen groups were facing the change that had been brought to them from outside: They were traditional societies but in relation to a market economy [34–36].

From the 1980s onwards, we found more or less systematic reviews of the discipline in which it is argued that fishing poses similar problems all over the world, and that these problems are more common among small-scale fishermen [37,38]. These are culturalist

visions that pretend to present, above all and almost exclusively, the specificity of fishing as an activity and of maritime anthropology in particular as a distinct disciplinary subfield [38]. This position is more clearly opposed to the evolutionist schematism that had ignored fishermen in relation to the different typologies of subsistence forms in cultural analysis. An analysis of fishermen populations was proposed from the concepts of “productive forces,” “articulation and appropriation of the factors of production,” or those of “rent and accumulation of capital,” concepts derived from Marxist theory, which, as we have said, had been analyzed mainly in studies on the peasantry [38].

In our case study, given the particularity of the discipline we analyzed, and the local, national, and supranational contexts in which we situated our research, we examined with more interest different works that have been carried out in northern European countries since the 1980s. These studies focus on the impact of European policies (Common Fishing Policies) on small-scale fishing communities from a social, economic, and environmental approach [4–6,39,40].

Hypothesis 2 (H2): *Understanding fishing activity as part of the market economy, as with other productive activities, we will find different modalities (investors, small entrepreneurs, self-employed, salaried workers), each with its own material and ideological characteristics.*

2.3. Small-Scale Fishing and Sustainability

The small-scale fishing model is characterized by the fact that it is practiced by vessels that do not exceed 15 m in length and that spend less than 24 h at sea. Their gear is passive, i.e., they do not chase their catch. In addition, they have between four and five workers on average per vessel and require a smaller number of catches to be economically profitable [41–43]. In this sense, we can specify the advantages of this type of fishing in relation to its social, environmental, and economic benefits. That is, we can speak of (1) social sustainability, since it guarantees the employment of families on the coast where it is practiced, including three main aspects: recognition, redistribution, and parity of participation [44]; (2) environmental sustainability, due to the use of its techniques and the short distance each fishing day [45–47]; and (3) economic sustainability, since it allows income to be optimized from an adjustment in costs [48,49].

In this context, we must refer to the concept of social ecology, linked to theoretical approaches from eco-socialism, indigenous movements, or, more broadly, an approach from ecological or environmental sociology [50–56]. These first theories were situated in the early 1970s as interpretations of the ecological phenomenon from the perspective of functionalism, symbolic interactionism, ethnomethodology, Marxism, or conflict theory, among others. For some authors, this was a paradigm shift, as well as a consensus among the different sociological schools when it came to approaching this phenomenon of ecology and sustainability [57,58].

In this case, by “paradigm shift,” we mean that this concept of environmental sociology confronted already existing theories. So, with the emergence of this new concept in the 1970s, theoretical options polarized around different views on the greater or lesser linkage between ecological or environmental sociology and sociological tradition. In this sense, and in general terms, we can say that some proposals were oriented more towards a strong discontinuity between the two and an approximation to biology [59], and others placed more emphasis on continuity and elaboration based on social action and conflict [60,61].

Small-scale fishing involves the use of artisanal techniques, practiced in small boats no more than 12 miles from the coast, which implies activity in what is called territorial sea. These characteristics allows us to talk about the concept of economic, social, and environmental sustainability. In relation to its material content, we will say that the labor and social organization of this type of fishing allows for a certain flexibility [62] in terms of economic and social fluctuations, and in relation with the environment [63].

Hypothesis 3 (H3): *Beyond the type of work in which the fisherman is inserted (self-employed, salaried, small-scale fishing), due to the techniques used, the configuration and management of the*

labor force and the flexibility in the income/expense ratio will have a direct relationship with the concept of sustainability in a broad manner.

2.4. Life-Modes Theory: An Approach

The first approaches to the so-called life-modes theory took place in the 1970s, driven by the new problems arising from the decentralization process at the local and regional level in Denmark [40]. This new state planning required citizen participation in the design of future action plans, based on the conviction that the wishes and needs—cultural, social, and industrial—of the different social actors involved should be listened to. The experience showed the enormous difficulty of integrating perspectives as diverse as those of farmers, families, salaried workers, self-employed fishermen, public employees, investors, qualified professionals, and housewives [40,64].

In that context, state planners began to refer to conflicting visions capable of imagining different possibilities for action models. All that seemed to emerge from deep contradictions between the needs and desires of the different social actors, which convinced authorities of the need for an ethnographic picture of the situation. These heterogeneous actors and social groups were interacting within a specific society, entering into conflict and mutually exchanging their values and thereby eventually allowing for the progressive process of mutual recognition [65]. In fact, it was a learning process founded on the basis of the various scales of values of the different actors [66].

At this point, it was necessary to find out the assumptions on which a particular society would be based on—assumptions that would take the form of necessary and not changeable differences. In this sense, there would be essential cultural forms on which the social structure was founded—that is, the fundamental elements of a given society. These elements were apprehended in cultural concepts formed on the understanding of certain necessary modes of existence, modes that would constitute the essential structure of the State and its concrete society. At this point, it was necessary to attend to the concept of praxis, in charge of revealing the ways on which certain conditions of existence can be ensured [67]. In a concrete society, praxis must therefore have a form and modes of existence that can display elements for self-reproduction.

All of this led to the conceptualization of different ways of life associated with modes of production [10]. In this sense, those ways of life—life-modes—were understood as the conditions for self-reproduction, and those modes were converted into the epistemological key to build a theoretical body that would allow for an empirical understanding of essential cultural forms of society. Each life-mode is associated with its own system of cultural concepts that forms the base of its ideology, understood as a vision of the world and a system of everyday concepts [68]. This supposes that the individuals inserted in a certain life-mode can observe the different ways of life of those with whom they live in a certain society, but will inevitably perceive them and will interpret from their own prism.

As said before, in order to define these various life-modes and their conditions of existence, the concept of the mode of production was used, considered in a broad sense and in terms of its multiple relationships and connections. If we look at the capitalist mode of production, we may notice that it is embedded in a set of multiple necessary relationships among themselves, the first of which would be the relationship between salary and work. From the life-modes perspective, at least four different ways of life are linked, and subordinated, to the capitalist mode of production: (1) wage-earners, (2) capitalist entrepreneurs, (3) investors, and (4) the specialist [10].

For its part, the self-employed life-mode would be linked to so-called simple mercantile production [10,69]. This linkage implies a series of characteristics, different from those of the wage-earners, which in this case point towards the economic, social, and environmental sustainability that we analyze in our Results and Discussion sections.

We will focus on the characteristics of wage-earners, and after defining its attributes we will focus on the self-employed life-mode and its differences.

2.4.1. Wage-Earner Life-Mode and Capitalist Production

If we pay attention to the characteristics of the wage-earner life-mode—immersed in capitalist production—we soon understand that it is ordered by a conceptual universe where its vital existence is radically divided between working hours, understood as obligation time, and free time, considered to be leisure time. Its main characteristic is that they sell their time in a routine job, and its value is defined in a negotiation. In the case of wage-earners, work and free time appear as opposite concepts. Free time is related to those activities enjoyed away from the activity. They work under the instructions of the “superior,” which in some cases means a relief for wage-earners, since they delegate obligations.

Wage-earners are incorporated into a complex and often tedious production process, where their individual tasks are limited to a single phase of the production sequence, being alienated from the total significance of the activity. For wage-earners, work has no intrinsic value; the activity essentially provides income that makes a life outside of work possible. Moreover, this wage is not simply the product of the work performed, but results from a complex group of factors, many of which are external to the work actually performed.

2.4.2. Self-Employed Life-Mode and Simple Commodity Production

Linking self-employed fishermen to simple commodity production means that small-scale fisheries—self-employed fishermen—are not dominated by the conventional capitalist division between investors, companies, and employees [69], and the main practical consequence of not operating within the capitalist logic is that these fishermen are especially resistant to market fluctuations.

From our fieldwork, we concluded that from this mode of production, fishermen are capable of functioning for quite long periods without earning revenues commensurate with the value of the investments involved in production. In this sense, we must bear in mind that boat-owners in this life-mode are involved in the direct selling of the catch, together with the repair and maintenance of the boat and fishing gear. The performance of these activities is the prerequisite if we want to consider simple commodity production related to self-employed fishermen, considering that the goal of this business is ultimately to remain self-employed. Now, we will offer some points to picture this linkage between self-employment and simple commodity production.

First of all, in simple commodity production, self-employed workers are the owners of their means of production. This allows them to maintain a high degree of resistance to market fluctuations. Indeed, unlike the capitalist entrepreneur, the self-employed are able to survive without receiving income commensurate with the value of its facilities and investments [40,64,69,70].

Second, in simple commodity production, the self-employed must face at least two types of costs: fixed costs and costs per unit. The first are those destined to cover the preconditions that make the operation of the company possible, such as the rental of a commercial or mountain area, the acquisition and maintenance of the machinery necessary to carry out their activity, the maintenance of their family, social security contributions, etc. On the other hand, the costs per unit refer to the expenses derived from each unit produced, independently considered. Considering these fixed and per unit expenses, the reproductivity of the self-employed life-mode, organized according to simple commodity production, depends on what the worker is able to generate to cover all expenses.

A third characteristic of this production model, derived from the previous one, is precisely that it does not distinguish between private and company costs. That is, the fixed costs necessary to keep the production process afloat and its necessary conditions—the required machinery, the necessary space, etc., in each relative case—do not differ from expenses such as food, family expenses, mortgage, educational expenses of the progeny, the care of the elderly if applicable, etc. [66].

Therefore, and from a life-modes view, business from the self-employed perspective is considered an end in itself. Indeed, the first essential aspect of this life-mode would be the importance of ensuring the viability and survival of their own business [10,69]. It is, in fact,

the ultimate goal that governs existence. In this sense, for example, unlike wage-earners, whose main objective is the enjoyment of leisure time, as opposed to working time, or the capitalist investor, always in search of the commercial niche that yields the greatest benefits, the self-employed will consider the maintenance of their own company as a supreme goal. That is precisely what completes the meaning of what the self-employed understand by responsibility: namely, the maintenance of their business.

Hypothesis 4 (H4): *From a deductive itinerary, that is, analyzing our fieldwork in relation to this theoretical framework, we presuppose the coexistence of certain life-modes in the fisheries of the region of Murcia. Specifically, we focus on the relationship between small-scale fishing and sustainability.*

3. Materials and Methods

3.1. Context

The coastline of Murcia (Spain) is 274 km long. Fishing activity in this region is divided into four main fishing areas: Águilas, Cartagena, Mazarrón, and San Pedro del Pinatar. This last fishing port has the peculiarity of being in between the Mediterranean Sea and the so-called Mar Menor.

The Mar Menor is a salt lagoon with a surface area of 180 km, separated from the Mediterranean Sea by a strip of sand 22 km long and between 100 and 800 m wide, in which fishing is practiced with the use of specific fishing gear, obtaining catches of great value in the market [71–73]. In the context of this small sea, we find localities that are dedicated to fishing with smaller gear, and that differ significantly from the purse seine and trawling vessels that operate in the rest of the ports of the Mediterranean [74].

In the broader context of fishing in the Mar Menor, in a simplified way, we can point out the following fishing techniques:

Small-scale fishing techniques. This category includes boats of less than 12 m in length, using hook gear, nets, and pots. A single fisherman may work there if circumstances so require. As a general rule, there are usually between 2 and 3 fishermen.

Trawling. This operates on the seabed precisely by dragging nets of variable height and of great weight. It is practiced by boats that reach up to 20 m in length. The crew is composed of a maximum of 8 fishermen, of which between 2 and 3 are capitalist partners, as well as specialist operators. The rest are made up of employees who vary according to the demand of each season.

Purse seining. This modality uses a net to wrap its target species, for which, in addition to the main boat, an auxiliary boat is used that holds powerful spotlights (“light boat”) that serve as a claim. Unlike trawling, purse seining moves along the Mediterranean coast, so the fishermen interviewed in this paper said that they usually stay in other ports, in addition to fishing near their own. As for their size, these purse seine vessels also reach up to 20 m in length, and their composition is similar to that of the drag: personnel who own the vessel, those who perform specialized tasks, and a crew that varies in numbers by season.

Longline. Selective fishing gear. This mode uses a small-scale fishing style of rigging, consisting of a main line to which several branches equipped with hooks are tied. The species fished depends on the size of hook, the bait, and the depth. A distinction is made between bottom longline and surface longline.

As indicated, over the last 20 years, both for structural reasons (management instruments linked to European political reforms) and contingent events (economic and production model crises, changes in production trends), the number of vessels operating in these 4 main ports has decreased significantly. This evolution is shown in Table 1:

Table 1. Evolution of the number of vessels by fishing technique in the last 20 years.

Year	Trawling	Purse Seining	Small-Scale	Longline	Total
2000	38	44	228	19	329
2001	39	41	219	15	315
2002	39	41	221	13	314
2003	37	37	220	13	307
2004	37	36	217	10	300
2005	35	36	217	10	296
2006	34	33	216	9	292
2007	33	29	213	10	285
2008	33	24	171	8	236
2009	32	24	167	9	232
2010	29	23	155	9	216
2011	29	24	151	8	212
2012	29	22	146	9	206
2013	28	20	145	9	202
2014	23	15	143	8	189
2015	23	20	136	8	187
2016	23	19	129	7	178
2017	22	19	125	4	170
2018	22	19	125	4	170
2019	22	19	123	4	168
2020	23	20	129	5	177

Therefore, it is significant to note how the number of small-scale vessels has decreased in these ports. Hence the interest of our work, as it is a type of fishing that meets this triple vision of economic, social, and environmental sustainability.

In descriptive terms, and before entering into the analysis, this triple sustainability is reflected in aspects such as the size of the vessels, the type of maintenance they need, and the labor organization linked to the figure of the self-employed and/or the family business that allows them to be more flexible in the face of market fluctuations. As for the environmental aspect, the techniques used, being mostly selective, generate less negative impact on fish populations and the marine context. Below are some of the vessels of this type in the ports under study (Figure 1):

**Figure 1.** Some examples of small-scale vessels in this territory.

3.2. Data Collection: Interviews and Participant Observation

In-depth interviews and participant observation were carried out in the four harbors referred to above. From the totality of interviews and information from our field work, we

analyzed the discourses of 21 informers that we consider relevant and not repetitive for our conclusions.

All the respondents were men, ranging in age from 38 to 72 years old. In order to learn the differences in relation to the perception of their activity, we met with 8 self-employed small-gear fishermen, 8 skippers of larger vessels (trawlers and purse seiners), and 5 salaried fishermen.

In order to establish categories and analyze the different dimensions to organize the structure of the interviews, we used the MaxQda program. The use of this software for processing and analyzing ethnographic material led us to design the following structural relationship of the interviews.

Table 2 shows that we established 6 main dimensions to structure the content of the interviews conducted. Each of these dimensions contains some common elements, which we found in most of the interviews conducted. Thus, through this structure, we were able to organize the ethnographic material for analysis and conclusions.

Table 2. List of variables related to our research interest.

State	Family	Narratives/Speech
EU/Government policies	Family life/structure	Complains/critiques
Economic policies	Household economy	Comparison
Public institutions	Family business	Success stories/frustration stories
Society	Business/Economic frame	Ideology/Values
Private institutions	Market (supply and demand, subsidies)	Motivations/advantages
Access to employment:	Means and relations of production	Insecurities/disadvantages
(1) self-employed, (2) wage-earner,	Techniques/tools/technology	Life changes
(3) investors/big boat owners	Investment expenses/flexibility	Work time/free time

Finally, we should point out that we carried out a comparative analysis of the results of our field work. As we said, our interest in the study was in defining the characteristics of the self-employed small-scale fisherman, who is in the majority and relates to the aspects of sustainability mentioned above. However, and inevitably, together with the figure of this type of fisherman, we propose the existence of two other predominant figures: the small entrepreneur purse seine and trawl fisherman and the wage-earner fisherman.

4. Results and Discussion

As anticipated, the results of our research point to the possibility of linking small-scale fishing and sustainability from a triple dimension: economic, social, and environmental. Therefore, in this section we offer an analysis of the ethnographic material obtained in our fieldwork. Our hypothesis links small-scale fishing with the characteristics of the self-employed derived from the life-modes theory, so we also link sustainability and the self-employed life-mode.

4.1. Economic Sustainability

This type of fishing is based on a family business model that allows greater flexibility in the face of market fluctuations, which, in the words of self-employed fishermen, translates into terms of freedom and “being their own boss.” Self-employed producers own the means of production, which allows them to be highly resilient to possible market fluctuations.

“Here [small-scale fishing] we survive because it is a family business. In one of these boats, at most five fishermen go out to fish. Besides, we are a family business, what we earn is shared and the expenses are different.”

We can infer a crucial advantage of the small family business: It is not necessary to calculate the cost of labor. No labor force is purchased, and therefore it does not enter into the calculation of costs and expenses. In this case, the self-employed fisherman is not obliged to generate a profit beyond “survival,” but must be able to maintain production.

“At the moment, small boats work because they are family members: three, at most four, get together on a boat. A father and a son [...] Most, 50% of the boats are family owned, father and son, or brother and uncle, and then the expense is less, because you don’t pay so much Social Security, for example.”

This concept of “free work” has a significant implication. It is work that does not have a fixed limit. Thus, one of the most decisive possibilities for the self-employed is that they can expand their working day without incurring higher costs. This economic sustainability is explained by the fact that they do not depend directly on the cost–income ratio of a larger business (large trawlers or purse seiners). On the other hand, this flexibility differentiates it from the logic and economic capacity of wage-earners, which depends on the ability to generate labor supply from a third party.

“Keep in mind that this is not like a land-based business. Here you don’t close the shutter and forget, here if you’re not at sea, you’re fixing nets. There’s always something.”

This idea that “there is always something” synthesizes what we are presenting here as being the self-employed life-mode. The activity performed represents an end in itself; there is no fixed time interval that marks the length of the working day. This character provides an advantage to self-employed fishermen who fish with smaller gear. From the different testimonies collected, we can affirm that as long as the crew is trained in the fishing gear, it is possible to work in the same way. As long as the crew is made up of family members, the work effort can be increased without generating additional costs.

“[. . .] And if you want to work, and do things right, when you get ashore you also have to do things ashore. Fix the rigging, fix this and that.... You have to be on top of them [the duties] all the time. If you leave it, then nothing. Besides, these are small you always have to be on the lookout, you have to like it.”

In situations where production is affected by certain contingencies, this fisherman told us that he is able to adapt to these demands, limiting the expenses derived from his activity. As we have already argued, from this perspective the producer is not “obliged” to maintain his activity at competitive levels similar to those existing under the capitalist mode of production. The self-employed fisherman is able to function for long periods of time without having income proportional to the value of the installations and equipment involved in production. He has the possibility of adjusting his organizational structure, as well as being able to opt for other complementary strategies; his aim is to maintain his particular way of life, to continue his activity as a self-employed fisherman.

“There are many, many days when I go fishing on my own. Just me and the boat. That’s all. I may not fish much but I don’t have many expenses neither, so when there is not much fishing I can survive.”

As we mentioned, linking self-employed fishermen to simple commodity production means that small-scale fisheries are not dominated by the conventional capitalist division between investors, companies, and employees, and the main practical consequence of not operating within the capitalist logic is that these fishermen are especially resistant to market fluctuations. In the same terms as the previous testimony, we found the reflection of another fisherman:

“If I had a bigger boat, I would have been ruined by now. But this little boat asks little [has few expenses] and I can always sell at the fish market.”

We must bear in mind that this cultural heterogeneity in the productive context of fishing, in particular, the existence of what we call labor cultures, are not ideal types that respond to inflexible traits. In this sense, throughout our fieldwork, together with small-scale fisherman, the self-employed, and owners of boats of no more than 12 m, we found the discourse of the owners of purse seine and trawling boats, larger in size and crew than the previous ones, and that we could call “small entrepreneurs.”

“I run a seine boat. We go 8 or 10. We go out at night [...] There is a lot of fuel expenses [...] And then, we have to pay all these people [crew].”

Unlike the small-scale fishermen mentioned before, we see that the owners of vessels of purse seiners and trawlers (“small entrepreneurs”) have opted for European subsidies that allowed them to modernize their vessels and, therefore, to gain fishing capacity.

“I believe that I am not doing anything wrong if I accept ‘money’ from Europe so that I can fish more and better. Because the money is for us to fish better, that is to say, not with an old boat like some people have. I am interested in fishing more, and earning more, of course.”

This speech reminds us that we should not fall into the bias of interpreting their activity in romantic terms. It is a profession in which time and money are invested and, therefore, the accounts must be settled. Therefore, among the strategies to improve their efficiency, some fishermen chose to accept certain aids to improve vessel technology. In some cases, they even accepted aid for the scrapping of their vessels, with the intention of acquiring new vessels with more fishing capacity.

We even found a concrete investment strategy, in which two fishermen partnered to invest in the purchase of active boats for their subsequent withdrawal in exchange for receiving aid for the construction of new boats.

“Until 2006, there was economic support from Europe to build new ships. What did we do? We bought two active ships, decommissioned them, and then asked for help to build two new vessels. It’s that easy. Like any other business.”

Technology is a key factor in this case. If not for the self-employed fisherman, for these small business owners technology allows them to identify their daily capture and carry out their work. In this case, they need to fish a considerable amount so they can make ends meet. Expenses in fuel, payment of salaries, and other expenses related to their activity force them to maintain a certain level of income. As we witnessed during many conversations, these fishermen consider advances in technology a great help and essential for the success of their daily activity.

In this logic of attending to the complexity of the nuances of this figure of the self-employed fisherman, and pointing to those cases that do try to maximize their profits, we found some fishermen who had formed a partnership to set up a net manufacturing and repairing company.

“For three or four years now we’ve also had a net fishing business. At the beginning we were in association with others, but now we’ve become independent. We are in charge of the design and assembly of nets for other businesses, and it’s not running badly at the moment.”

We must remember that these coastal vessels coexist with larger purse seiners and trawlers, which occupy a larger fishing area in order to catch and sell at the fish market. In our fieldwork, we also interviewed trawl and purse seine fishermen. Although they maintained the described logic of the self-employed (we could call them small entrepreneurs), the type of fishing technique used, in contrast to small-scale fishing, implies other practices and needs that justify the investment and fixed costs of their activity.

“At the moment, in Águilas and Mazarrón you can’t make a living from fishing. You have to go and look for it all over the ‘Levante.’ The only thing that works here is trawling, which sells in the fish market every day [...] We fish outside of here. We leave the boat for example in Torrevieja, Altea, Jávea. We spend the whole week there fishing, we leave the boat in the port and we go back to the port. We go back.”

On the other hand, a purse seine fisherman explained that his fishing technique yields more catches than trawling. However, like the previous fisherman, he has to fish in other waters, going to other ports where he stays for several days and obtains good catches.

“Trawlers catch little, and what they catch is worthless. We purse seiners we move around and we have more output. If there is fishing in Vinaroz, we go there. I have even

I've been fishing in Malaga for several years. There are those who go to Rosas. Where the fish is."

Finally, we must point out the testimony of some wage-earners in these purse seine vessels. In their speeches, we found the differences referred to in our theoretical framework, and pointed out this different way of perceiving their activity.

"I never wanted to be the boss. I like working in this vessel, doing what I am supposed to do [...] I know what I have to do, it has been the same for many years and this is how I want it to be [...] I don't want to do the numbers, pay taxes, fuel ... Too many worries. I work when I have to and when I am free I stay at home."

Therefore, in the analysis from this dimension of economic sustainability we found differences among what we proposed as three types of fishermen in this context: small-scale self-employed fishermen, purse seine and trawl small entrepreneurs, and wage-earner fishermen, mainly in purse seine and trawl boats.

4.2. Social Sustainability

In general, small-scale fishing activity in the same port is differentiated in relation to the existence of several family groups. In the fishing ports where this research was carried out, the different families are known by the nicknames given to their members. These nicknames are inherited, so that the son is also known by the name by which the father was called; in the same way, the vessel is known by that pseudonym, and so it continues to be called among the different generations.

"They call me El Cabrerilla... after my father. And so, my boat is Cabrerilla. My brother is also Cabrerilla, and my cousins are Josefa's cousins."

The generational transmission of the fishermen's trade is something that has always existed, according to the fishermen interviewed. This way of life has been inherited, and it is accepted and at the same time enjoyed.

"My family was one of the first settlers of Cabo de Palos. There was no one settled here, just us and someone else who fished. Then we arrived here and cousins started marrying cousins and that's how this started. I am talking about more than a hundred and some years ago."

Sometimes you may even be able to earn extra income by doing other secondary activities, or perhaps by taking on salaried jobs to complement your main activity. This is the case of several fishermen interviewed who explained that in the months where there is fishing, i.e., mainly in spring and summer, when the catch can be sold at the best price because there is more demand, they dedicate themselves to this main activity, whereas the rest of the months they have other occupations. That was the case of a young fisherman who combines fishing on the family boat and another part-time job:

"When there is work on the boat, I lend a hand with my uncle. The working months are in the summer, and that's when I'm first on the boat. [...] What happens is that in October there is not much work, and it is also different. It's not like in summer. What I do, or what I used to do when there was work, is to go to the construction site and work as a bricklayer."

In this excerpt we can understand the idea of flexibility linked to the configuration of this activity as a family business. The family organization of this specific case allows this "entry and exit" of the activity in such a way that it makes it possible to intercalate salaried work and family fishing activity.

"No, I don't have to be paying salaries, nor do I want to become a millionaire. I already have paid for my house, I don't use the car, I take the motorcycle to come here. I go out with the little boat. I can go out on my own and sell. If not in the fish market, in some restaurants that they already order for me."

In relation to this idea of social sustainability, which has to do with the configuration of these small fishermen as self-employed and/or linked to the concept of family business, we must point out the precepts of the theory of life-modes. Thus, there are several testimonies that referred us to this idea of flexibility and continuity in the performance of their activity: The way of life of the self-employed does not distinguish between “work time” and “free time.” Two basic ideas also emerge from this premise: (1) This activity is carried out as a self-employed worker linked to the idea of vocation, and (2) it is an activity that is passed down through the family and, therefore, reinforces this idea of social sustainability.

“I have always fished with my family. We are generations. I don’t remember doing anything else. If I wasn’t fishing, I was mending nets here in the port [...] I used to go out when I was seven or eight years old, with my father and uncles. Then I continued on my own for a while, on a small longline. My cousins, all of them, too. And now my son. My other son goes out with his father-in-law’s boat.”

However, we also found differences in the discourse of some veteran fishermen. This occurred when we asked them to refer to the future of their children, to the question of whether they expected their children to go into fishing.

“Now, that I also tell you that my children don’t go into this. I don’t want to. My daughter is studying to be an engineer. And my son is not going fishing. This is not a living, it’s a struggle. Even if you like it. It’s no life for my children.”

This self-employed fisherman enjoyed his profession, and throughout the interview he explained that he did not understand the motivations of those who work for others (wage-earners), dispensing with the freedom of being their own boss. However, when he analyzed the situation in which his sector finds itself, he explained that he would not want his children to dedicate themselves to this work.

In the case of what we call “small entrepreneurs,” we also found that the organizational structure is created from a family core or knot. This means that family members usually take responsibility of management and technical positions—skipper, mechanic, and maintenance tasks—and they hire workers as their crew. In this case, it was interesting to observe the co-existence of both small-business and wage-earners in the same vessel, and discern the differences between these two life-modes. This is how a wage-earner described his interpretation of working onboard:

“I come and ask if there is work for me. Then the boss [he refers to the owner who usually offers him work] if he needs me, he hires me [...] It’s weeks, sometimes two months. Mostly in summer.”

We can call this an “intermittent job search.” It is a way of relating to the profession that differs from the interpretation of the self-employed and the small entrepreneurs who are committed to their work, for work is a pursuit. So, if small entrepreneurs employ wage-earners permanently or temporarily, they also expect the same commitment from them, for employees are brought into the context of the pursuit. Such commitment will be forthcoming if his employees belong to life-mode 1 (self-employed), but not if they belong to life-mode 2 (wage-earners). Those in life-mode 1 will remain after five o’clock to finish the job. Those in life-mode 2 will demand overtime [10].

Thus, we collected two discourses, one from small-scale fishermen and one from small entrepreneurs, who coincided in their interpretation of the wage-earner’s way of life: Both showed their bewilderment at what they qualified as a “lack of commitment” and “waste of time,” respectively.

“And these people [wage-earners hired during the summer], what a lack of commitment. They don’t care about anything, whether I get my bills or not. They come to their own thing, to their salary and to spend it fast. They don’t see any future.”

“I really don’t understand people who work for someone else. Why don’t they want to be their own boss? What a waste of time.”

4.3. Environmental Sustainability

In the first place, due to the characteristics of this type of fishing, small-scale fishermen tend to have a certain intimacy with the environment. Many of the fishermen interviewed spoke of what we can define as an environmental awareness that is expressed in the way they carry out their activity.

“I live very much by the weather, by nature. I am aware of the weather we are going to have tomorrow (...) This is a profession as if I were a forest ranger.”

This intimate relationship with nature was explained in the thoughts of another interviewee. In his case, he advanced this idea and explained his awareness of responsibility. Moreover, when asked about the measures adopted by the various reforms of the CFP, he expressed his interest, as it is his profession, in not depleting the existing marine resources.

“In my head there’s a map of where the fishing is usually good. And that has to do with knowing this place well. It’s as if it were a farm. I don’t know, a relationship as if we were the guardians of the sea, of responsibility (...) We are the first ones who don’t want to kill the fish.”

This relationship of responsibility and conscience that we express here is linked to the so-called Traditional Ecological Knowledge [75–78]. This is a type of knowledge composed of a system of expertise, habits, and beliefs, the result of the relationship of different communities with their environment. In this case, we found the concept of the Traditional Knowledge of Fishermen. [79–82]. Many of the fishermen we met in our fieldwork offered comments linked to this idea.

“It’s about knowing how to fish. It’s about learning to fish because my family knew how to fish too. It is something that is inherited.”

“You can’t explain it if you don’t go fishing. These are things you learn by being on the boat, listening around you. The seagulls, the wind. When we go out at night, depending on the moon, that also affects.”

The timing of these interviews coincided with an ecological disaster in the Mar Menor. In summary, we will say that in recent years, discharges from intensive agriculture in the area have caused a considerable deterioration in the water quality of this lagoon. This is an issue to which the political management must respond, and about which the fishermen are also speaking up, in this case, pointing out the negative effects of this type of agriculture on the environment, and, in particular, on the waters in which some of them work.

“The waters are being polluted. And that cannot be. We cannot put an end to this type of fishing. It is not only my profession, it is a way of life, it is nature.”

“This sea is my office. It is my workplace. We live families from fishing, but also live all the flora and fauna of this sea.”

In this environmental dimension, it is important not to commit the bias of falling into romantic interpretations that summarize the activity of small-scale fisherman in terms of a perfect and responsible relationship with the ecological context. We found discourses of small-scale fishermen describing a relationship of intimacy and a certain amount of care and attention to the environment. We put this ecological awareness that we identified in relation to the traditional or ecological knowledge referred to, and it seems relevant to emphasize this dimension for the case of small-scale fishermen. Moreover, from a material perspective, we must indicate that the characteristics of the boats themselves (smaller than those of small entrepreneurs) and the fishing techniques used (selective, not as in the case of trawling) make their activity less aggressive with the environment.

5. Conclusions

Our purpose with this research was to investigate what we defined as “labor cultures.” This means that our hypotheses presupposed the existence of different cultures in the field

of labor relations, within the same sector of activity and in the frame of a particular social formation. We approached these ideas from both theoretical and empirical perspectives.

As a starting point, the specific situation of fisheries in the European context was described from a broad perspective. We understood that it was important to take into account the political and economic context that, to a certain extent, through different political reforms has been conditioning the strategic decisions of the fishermen under study. For this reason, the different political assumptions derived from the Common Fisheries Policy were exposed.

Given this broad context, we were interested in analyzing the specific characteristics of fishermen in the region of Murcia (Spain). To this end, we found differences that had to do with the fishing modality, as well as with the labor modality in which they were inserted. This empirical experience led us to rely on the assumptions of the life-modes theory. Based on life-modes analysis, we considered that a social formation consists of a system of different life-modes, each of them operating on the basis of their particular ideological universe and rooted in different modes of production.

In our fieldwork, we identified the existence of what we defined as three life-modes, linked to three ways of interpreting the profession of fishing in the region of Murcia: small-scale self-employed fishermen, small entrepreneur fishermen, and wage-earner fishermen. As mentioned, we focused on small-scale fishermen, since we consider their particular relation with the concept of sustainability.

We related the small-scale fisherman life-mode to simple commodity production, which means that they own both the means and relations of production. This linking means that small-scale fisheries are not dominated by the conventional capitalist division between companies and employees, and the main practical consequence of not operating within the capitalist logic is that these fishermen are especially resistant to market fluctuations. This possibility of survival explained by many participants in the field is mainly possible due to the relation between family and self-employment. In this regard, property of means of production and family are found in the household itself. From this perspective, we considered the importance of pointing out economic sustainability derived from these characteristics contained in the self-employed fishermen who participated in our research.

Most self-employed fishermen that we met in this research organized their work as a family business. This configuration gave them the possibility to be flexible and adapt the working force to market demands. We concluded that the goal of the self-employed fisherman is to maintain his configuration; for this purpose the family constitutes the structure that enables the economic sustainability mentioned above. From our fieldwork, we concluded that from this mode of production fishermen are capable of functioning for quite long periods without earning revenues commensurate with the value of the investments involved in production. In this sense, we must bear in mind that boat-owners are involved in the direct selling of the catch, together with the repair and maintenance of the boat and fishing gear. The performance of these activities is the prerequisite if we can consider simple commodity production related to self-employed fishermen.

Self-employed activity consists of a heterogeneous variety of tasks. In order to maintain their existence, self-employed fishermen must personally control and supervise all these activities; this means that from this life-mode they make no distinction between “work time” and “free time.” When they return from the sea, there are still some activities remaining: There is no daily fixed schedule—the day ends when all tasks are completed. This means that the notion of work assumes a very different cultural content compared to a wage-earner’s routine. From this idea we found concepts like responsibility and commitment, which we did not find in wage-earners’ discourses when explaining their relationship with their job. After all, being self-employed means that you remain responsible for the operation and the success of the business, and in the same way you are liable for its failings. We considered these conclusions economic and social sustainability.

It is also a work context that is related to nature. Ecological balance is a necessary prerequisite to guarantee the development of its activity in an adequate manner. It is not

just a material necessity; we also observed the existence of an awareness and relationship of intimacy with the environment, which led us to speak of environmental sustainability.

From the proposed relationship between small-scale fishing and self-employment we can point out the following characteristics that would enable us to talk about sustainable fishing:

Family business. Most self-employed fishermen that we met in this research organized their work as a family business. This configuration gave them the possibility to be flexible and adapt the working force to market demands. We concluded that the goal of the self-employed fisherman is to maintain this configuration; for this reason the family constitutes the structure that enables them to stay in their particular life-mode.

Work time and free time. Self-employed activity consists of a heterogeneous variety of tasks. In order to maintain their existence, self-employed fishermen must personally control and supervise all these activities; this means that from this life-mode they make no distinction between “work time” and “free time.” When they return from the sea, there are still some activities remaining: There is no daily fixed schedule—the day ends when all tasks are completed. This means that the notion of work assumes a very different cultural content compared to a wage-earner’s routine, for instance. From this idea we found concepts like responsibility and commitment, which we did not find in wage-earners’ discourses when explaining their relationship with their job.

Simple commodity production. As we said, family structure enables these fishermen to develop certain flexibility when performing their activity. This possibility is related to simple commodity production, which allows small-scale or near-shore fishermen to remain in some way independent from capitalist production. From our fieldwork, we concluded that with this mode of production fishermen are capable of functioning for quite long periods without earning revenues commensurate with the value of the investments involved in production.

Finally, we would like to point out some lines of future research that would be relevant in order to broaden and enrich our proposal. On the one hand, it would be relevant to include the question of gender, so that attention would be paid to how in some productive activities tasks are distributed according to gender. Secondly, and following this line, it would also be interesting to look more deeply into the relationship between domestic economies and productive activities, thus distinguishing between family businesses and the idea of household economies. Finally, there are recent studies that also address the issue of resilience when studying the permanence and survival of certain locally based economies, sustained on the basis of the family and local nucleus. It seems to us that it would be relevant to address, or to approach again, this object of study by attending to some of these dimensions that could help to better understand the phenomenon.

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