Fisheries Development and Fisheries Dependent Communities in Portugal: Socio-Economic Change and Strategic Planning

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Abstract

The socio-economic subsystem encompassing fisheries may be defined as including not only the harvesting sector but also several related activities occurring both upstream (shipbuilding, gear manufacture) and downstream (processing, distribution and trade). But these closely interrelated economic activities can also be set within a much broader system which would include the ecological, institutional and political influences which frame economic behaviour. The value of this broader conceptualisation is that it treats fisheries not as an isolated and independent economic activity but as part of a more holistic and complex system. This broader perspective is of particular significance when attempting to examine the concept of regional dependence.

The socio-economic subsystem for fisheries is dominated by small and medium sized enterprises (SMEs). And Peniche emerges as one of Portugal's most important fishing ports whether measured in terms of the volume of landings or the total numbers of fishermen. It also has one of the highest levels of fisheries dependence of all coastal municipalities in Portugal with over 20% of its workforce currently engaged in fisheries related employment, faces a daunting and uncertain future. The social fabric of fisheries dependent communities also suffers serious damage; once again, the technocratic approach to management has no solutions to offer. It is essential, therefore, to turn away from the existing approach and to develop instead new forms of intervention; in short, to provide a new vision. This implies change not only to the policy process but also in the attitudes of the social actors and in the preoccupations of fisheries related research. An integrated approach is required based on participative action and the development of an integrated information network.

Keywords: fisheries; socio-economic system; Peniche; Portugal; dependent communities; policy

JEL classification: J48; Q22; Q32; R11

Fisheries dependent communities in Portugal

In Portugal, the socio-economic subsystem is strongly characterised by a number of unsolved and interdependent problems concerning ecological, economic and social issues. In particular, we can note the depletion of the resource base, the degraded ecosystems, technological overcapacity, poor economic returns, a lack of skilled workers, unemployment and social exclusion in the fisheries dependent communities. At the same time, the fisheries

[1] Based on the article published with the same title at David Symes (ed.): *Fisheries Dependent Regions*, Londres, Fishing News Books, 2000, pp. 143-153

sector provides a stage for acting out the conflicts between the different social actors involved.

Fisheries dependent communities in Portugal divide into two types: first, those which exhibit a significant level of dependence on fishing related activities in terms of employment structure and economic development; and the second where significant numbers are employed in fishing and fishing related jobs but in large urban labour markets where the fisheries sector has only a minor economic importance. In the true sense of the term, fisheries dependent communities will tend to be located in smaller coastal towns such as Viano do Castelo, Póvoa do Varzim, Vila do Conde, Peniche, Sesimbra, Olhão, Vila Real de S. António and Rabo de Peixe, S. Mateus (in the Azores) and Câmara de Lobos (Madeira). Elsewhere, fishing populations are found alongside other occupational groups in more diversely structured towns and cities, including Matosinhos, Aveiro, Figueira da Foz, Setúbal, Sines, Portimão and Ponta Delgada.

Table 1. The main fishery landing sites in Portugal (including Azores and Madeira), according to total landings in weight by year

Landing site		Total landings (t)		
		1996	1997	1998
Mainland	Matosinhos	36 838.3	29 119.9	29 748.2
	Póvoa do Varzim	5 158.6	6 751.8	3 602.0
	Figueira da Foz	12 070.7	12 267.1	17 692.8
	Aveiro	8 577.4	6 999.1	8 182.1
	Peniche	24 976.4	20 982.2	23 423.3
	Sesimbra	20 052.6	18 093.2	16 728.2
	Nazaré	3 627.6	4 560.5	4 933.3
	Sines	9 411.9	9 504.1	10 020.6
	Portimão	18 707.1	18 696.9	15 547.2
	Olhão	15 394.1	14 405.2	18 042.7
Azores	S. Miguel Isle	7 481.8	7 575.9	7 591.7
	Pico Isle	5 470.4	2 363.8	4 631.7
Madeira		11 719.5	11 071.0	9 429.0

Source: FAO, http://www.fao.org/fi/fcp/en/PRT/body.htm

Problems and potentials

Some of these communities, but especially those which are truly fisheries dependent, are facing major structural change - due either to the increased scarcity of the natural resource or to political decisions that conflict with local economic interests; both may cause serious social problems including unemployment and poverty for some social groups. Most of the conflicts of interest are linked to the industrial strategies developed by the different local interest groups - vessel owners, fishermen's organisations, fish processors and fish farmers - that may also run counter to regulations established at the level of the European Community, the national government in Lisbon or even the regional authorities. Such 'external'

regulations relate to international fishing agreements, natural resource management, structural measures, environmental conservation etc. Normally the unions and local authorities are not involved in the decision making for such strategic concerns. As a result, the fisheries dependent communities may find themselves locked into a 'dead-end' situation, with no means of escape. Communities such as Viano do Castelo, Póvoa do Varzim, Vila do Conde, Peniche, Sesimbra and Olhão remain heavily dependent on fisheries and the sector's economic problems touch the lives of most of their populations, except where cushioned by pluriactivity or by welfare payments. Pessimism in the community increases in proportion to its dependence on fisheries.

Other fishing communities, encapsulated within larger and more diverse urban areas such as Aveiro, Setúbal and Matosinhos, may not suffer the specific problems of fisheries dependence but are influenced by trends affecting other economic sectors. Many of these larger centres are heavily industrialised and their economies reflect the growth trajectories of the late 1960s, especially in engineering and electronics. In particular, Aveiro and Setúbal developed skills in shipbuilding - beginning with wooden construction, then steel built vessels and finally, in the case of Setúbal, the construction of large oil tankers - and subsequently in the 1970s in the automotive and auto-parts industries and other technology centred activities including chemicals, plastics, micro-electronics *inter alia*.

The socio-economic subsystem for fisheries, as defined at the outset of the chapter, is dominated by small and medium sized enterprises (SMEs), with more than 70% of the firms having fewer than 50 workers. This situation implies several weaknesses for the sector and in particular fails to capture the advantages of technological innovation. The social standing of most fisheries related occupations is poor. There is little scope for skilled employment; remuneration is low and, in the case of the harvesting sector, irregular. As a result, fishing fails to attract young people with good education and the professional training of fishermen - and workers in the processing industries - is poorly adapted to the needs of a rapidly changing and modernising sector. Other problems facing the industry include the incipient social dialogue within the socio-economic system itself, the absence of an institutional framework linking public administration, vessel owners, unions, processors and research centres, and the slowness of response to changing consumer needs.

Nonetheless, new opportunities for development of the sector can be found. There is a strong demand for fish and fish products in both the domestic and export markets and a growing interest in product quality. Moreover, there is support at EC and national levels for the modernisation of the industry, together with an overall trend for the increasing valorisation of the product. Further opportunities lie in the development of new technologies in vessel design, telecommunications and gear technologies - as well as in food processing. But these trends presuppose an improvement in both general education and occupational training of the workforce. Outside the conventional capture fisheries, the growth in consumer demand for high value aquacultural products requires a higher level of professional knowledge and quality control on the part of the producer.

Table 2. European Union fishing fleet overview

Tonnes in live weight							
	Budget €	N° vessels	% Inshore Fleet	% Fleet reduction	Catch Tonnes	Value € thousand	Employ-ment
Year of data	2000-2006	2001	2001	'98-'02	1999	2000	1999
Spain	1721200000	15475	70,5	7.4	1179734	1601712	9068
Italy	390312000	16486	27,41	18.3	294160	823461	40224
France	284581432	7932	26,1	10.9	650269	647476	21018
Germany	221218000	2191	78,5	7.8	238922	101158	4363
UK	221177700	7242	73,68	8.2	837763	692912	11923*
Portugal	217694000	10514	71,9	2.5	209311	281072	26660
Denmark	213300000	4047	68,92	15.8	1404917	422763	6695
Greece	211100000	20094	97,81*	1.8	136717	236379	18007
Sweden	76767380	1948	75,46	14.4	351345	112167	2880
Ireland	70500000	1341	88	33	285957	169106	8478
Finland	40353000	3610	93,97	2.3	144520	30000	5928
Netherlands	39500000	751	11,41	17.3	514615	357135	3748
Belgium	38535254	130	0	36.4	29876	79300	564
Austria	5325563	0			432		2300
Luxembourg	0	0			0		35
Total EU 15	3751564329	91761			6278538	5553031	161891
Average (14)	267968881	6554,4	60,23	13.55	448467	427156.2	11561.1

* 2000 data

Source: Struan Stevenson: THE EUROPEAN FISHING INDUSTRY, 2003

Peniche: a case study

If we are to understand the problems of fisheries dependence, the analysis must be conducted at a level where it is possible to identify the economic and social impacts of fisheries and their management. In Portugal the most appropriate administrative unit is the municipality, but at this level statistical data on employment and added value are usually poor and there is little information describing the different branches of activity related to fisheries. Moreover, social data commonly combine agriculture and fisheries. Nonetheless, it is possible to identify and rank Portugal's fishing ports in order of magnitude and to determine the basic level of economic dependence on fisheries for the municipalities involved.

Fig. 1. Location of the main fishing harbours in continental Portugal.

Employment structure

Peniche emerges as one of Portugal's most important fishing ports whether measured in terms of the volume of landings or the total numbers of fishermen. It also has one of the highest levels of fisheries dependence of all coastal municipalities in Portugal. The urban centre of Peniche accounts for around 18 000 out of the municipality's 30 000 inhabitants: its principal economic activities include agriculture, fishing, fish processing and trade and, more recently, tourist related activities. The broad evolution of Peniche's working population is indicated in Table 15.1, with the expected but quite sharp decline in the importance of primary activities (agriculture and fisheries), a growth in industrial employment - most notably in the food sector - commerce and public administration. Figure 15.3 describes the evolution of Peniche's economy from a situation in 1970 when there was a very marked concentration of economic activity in the primary sector, through the diversification of the employment base into both manufacturing and services by 1980 and the emergence of a much more balanced economic profile in 1990. Throughout the 1970s and 1980s Peniche was progressively developing as an urban centre.

Table 3 Peniche: evolution of workforce, 1970-1991.

	Percentage share 1970	Percentage share 1981	Percentage share 1991
Agriculture	30	16	11
Fisheries	32	23	16
Food industries	1	11	13
Other industries	8	15	14
Commerce	6	11	15
Tourism	2	2	5
Public administration	8	9	15
Other services	13	13	11
	100	100	100

1970, 1981 and 1991 Census

The fisheries sector

The fisheries of Peniche and the surrounding area have developed in three distinctive sectors:

* The *traineiras* or seine nets used in the capture of small pelagic species, most notably the sardine but also horse mackerel, mackerel and occasionally anchovy. The purse seiners are between 24 and 27 m in length, powered by 500-600 hp engines and with crews of 25-30 men: they deploy nets measuring roughly 600x300 m. Altogether the purse seine fleet of around 20 vessels is responsible for some 70% of all landings by volume but only 30% of landed value. Some 650 men were employed on the purse seine fleet in the mid-1990s; average productivity was in the region of 33 tonnes per man per year, with an average catch value of 2.7 million escudos/man year. The revenue from the vessel is divided, with half going to the vessel owner and the remainder allocated as shares to the crew varied according to status. The number of purse seine vessels operating from Peniche has declined from 53 in 1986 to only 20 in 1997.

* The artisanal fishery, using boats ranging from 4 to 20 m in length, crewed by anywhere between one and eighteen men and deploying a variety of fishing gears on a range of demersal species occurring in the local, inshore waters. Although the artisanal fishery accounts for a much smaller volume of landings, it represents more than half of the landed value. Almost 2 000 boats are involved and in employment terms these artisanal fisheries account for more than half the total number of fishermen in Peniche.

* A distant water fishery off the coast of west and northwest Africa has been developed by the neighbouring municipality of Lourinhã, though the area lacks any fishing port of its own.

Although Peniche has gained in importance as a fishing port since the 1940s, its landings have been subject to quite strong fluctuations, culminating in a persistent decline in the volume of landings for most species over the last ten years. In line with this change, Peniche has also witnessed a decrease in the number of active fish processing firms - though the overall situation in relation to the canning industry has actually improved as the result of a decision by Heinz North America to locate one of its factories in Peniche for the canning of tuna imported from Spain. Between 1986 and 1996, Peniche's share of the national canned food production has increased from 14% to 31%. It is now Portugal's principal producer of canned food. The other main form of production in Peniche is block frozen fish. Altogether, employment in fish processing accounts for more that 2 000 workers, mostly women.

Based on recent local and national trends, the prognosis for the future development of Peniche's economy would seem likely to include a further decline in employment in both farming and fishing, together with the food processing industries, and a continuing expansion of the working population engaged in commerce, services and tourism. Although the fisheries will continue to decline in importance, they will certainly not disappear.

Appraisal

Peniche, one of Portugal's most important fishing centres with over 20% of its workforce currently engaged in fisheries related employment, faces a daunting and uncertain future. The last ten years have witnessed a decline in landings, a contraction in the size of the fishing fleet and a reduction in the numbers employed at sea and in shore based activities. These trends seem certain to continue. In future fishing seems likely to become a more complex and sophisticated area of activity, demanding higher levels of vocational training both to update the traditional skills and to encourage well qualified recruits to join the industry. At present, however, fewer young people are applying for jobs related to the fishing industry. The cultural heritage of the fisheries is being eroded and tourism is gradually taking over some of the spaces traditionally occupied by the fishing industry: former fish warehouses, for example, are being converted into restaurants, nightclubs and bars. Many of these trends cannot be arrested. The survival of the fishing industry as a dynamic sector of the local economy in Peniche seems likely to rely on increasing specialisation, greater added value and higher quality production.

The role of research

The future of work, employment structures and qualifications in the socio-economic subsystem related to fishing is an unknown quantity. Thus there are no meaningful strategies

for the fisheries sector, only a zero-sum game orientation in relation to social behaviour. The key decision makers remain the local administration, the state and the European Community. The social actors themselves have little involvement in the decision making.

Such a situation is characteristic of segmented policy making. Only occasionally can one recognise a decision taken jointly by the ministers with responsibility for employment, science and technology, education, trade and fisheries. As a result, the problems relating to the fisheries are not being addressed within an integrated framework of policy making but through partial, *ad hoc* decisions relating to the biological resources, broad economic and financial considerations or even foreign relations.

At the same time, however, the search for new forms of entrepreneurial organisation - mainly as a result of EC decisions - has enabled the producers' organisations to gain negotiating strength. One example of this is the withdrawal price mechanism which comes into play when quayside prices fall below a given level. This market regulating mechanism has provided few incentives for managing production or for maintaining regularity and quality of supplies. It has had a negative effect on the processing industry and on the management of fish stocks. New conflicts have emerged.

What, therefore, seems to be an immediately important and relevant requirement is the development of forecasting techniques for the socio-economic analysis of change in fishing dependent communities in order to demonstrate the likely impacts of 'strategic' decisions taken by any one of the political actors. Scientific research can make an important contribution by providing relevant information on which to base the discussion on alternative pathways using traditional skills and cultural values. Forecasting techniques are oriented not only towards clarifying new trends in technological development but also towards identifying the socio-economic information which will help to facilitate development of the sector.

This is clearly demonstrated in current research in Portugal aimed at elaborating alternative scenarios for the future development of the socio-economic subsystem for fisheries. The MARHE project, which began with the support of the Peniche Development Association and the cooperation of the state department for fisheries as well as the trade unions (*sindicatos*), the producers' organisations and the vocational training organisations for fisheries (*Forpesca*), is multi-disciplinary in its approach. It involves not only the traditional players of fisheries biology and economics but also the social sciences (sociology, demography and geography) and robotic engineering, as representing the leading edge of modern technology. It also brings together both academic researchers and the different social actors - the unions, employers and local authorities *inter alia* - involved in the socio-economic subsystem.

Critical contributions to policy planning strategies for fisheries

Since the early 1980s, international conventions, multi-lateral agreements and new codes of conduct have created the framework for a new world order for fisheries in which the coastal states will increasingly depend on the resources occurring in their own waters. As a result, more robust management systems, greater international cooperation and a more sophisticated training programme for all involved in fishing related activities are needed. From Portugal's perspective, the most important international agreement is the Treaty of Rome establishing the European Community and legitimating the Community's Common Fisheries Policy.

Although, mainly as a result of its offshore islands of the Azores and Madeira, Portugal has one of the largest Exclusive Economic Zones (EEZs) in Europe - accounting for almost half the Community's 'common pond' - only 2% of its EEZ is occupied by the continental shelf. Control of the Zone is proving difficult to achieve, as the result of poor cooperation between the relevant parties and frequent disagreements among the naval

protection service, the harbour authorities and the fishermen's organisations. Environmental policies and oceanographic and marine biological research also expose these divisions.

From the point of view of the fisheries subsystem, the lack of support for fishing in international or third country waters is a particular problem. Once renowned for its distant water fishing fleets, Portugal is now forced to concentrate its activities within its own waters. Portugal has the highest *per capita* consumption of fish within the EC and domestic catches are now balanced by an equivalent level of imports of fish and fish products. While average prices for fish have been increasing during the 1990s, the domestic fishing fleet has been forced to contract in line with the Community's fisheries policy. Renewal of the fishing fleet and improved productivity are proving difficult to achieve.

As the Secretary of State for Fisheries, Marcelo de Vasconcelos, remarked in 1997:

> 'Despite awareness of the present situation and the fact that the medium term prospects are not good, there are still those who continue to ignore the significant changes taking place in the patterns of exploitation which, for years, have been based on intensive fishing and the use of skills on an excessively large scale'.
>
> (SEPA-MADRP, 1997)

This is a social behaviour problem. Thus, fisheries policy has to integrate not only the management of a natural resource but also the social problems associated with particular economic strategies. Until now, planning policies affecting the fisheries system have been worked out on the basis of a zero sum game: advantages gained by one interest group inevitably mean losses sustained by another interest group.

It is the complexity of the problem that leads to a twofold approach to the identification of problems and the search for solutions through interdisciplinary research and the involvement of the key social actors in the research programme. The MAHRE project involves a Delphic approach with a panel of around 50 members drawn from scientists, union representatives, fishermen's leaders, entrepreneurs and others. Parallel investigations include a large scale survey of youth attitudes to employment in fisheries, a study of management quality in the manufacturing sector and an analysis of the R & D infrastructure for the fisheries sector. The findings of the programme will, it is hoped, assist the development of meaningful planning strategies formulated either by government agencies or by the social partners in the fisheries system.

The definition of social objectives for fisheries management is itself an important aspect of the regulatory system. When such objectives are missing, the lack of a specific focus for social questions leaves the door open for the ascendancy of biological or economic objectives concerned solely with conserving fish stocks or maintaining the profitability of the industry and leads to the persistence of low incomes and poor working conditions. As the Secretary of State for Fisheries commented

> '... the logic behind the system of industrial exploitation and the traditional market, operating on a short term profit basis and assisted by technological advances, only serves to create a vicious circle characterised by overfishing, overinvestment and waste'.
>
> (SEPA-MADRP, 1997)

Conclusions

The fisheries socio-economic system in Portugal - as in many other parts of Europe - is in deep crisis. The dominant technocratic perspective on decision making is unable to avoid the

continuing destruction of the natural resource base and the degradation of fish stocks. Meanwhile, demand for products from the system is increasing. The social fabric of fisheries dependent communities also suffers serious damage; once again, the technocratic approach to management has no solutions to offer. It is essential, therefore, to turn away from the existing approach and to develop instead new forms of intervention; in short, to provide a new vision. This implies change not only to the policy process but also in the attitudes of the social actors and in the preoccupations of fisheries related research. An integrated approach is required based on participative action and the development of an integrated information network; this new approach will be able to elaborate the multiple dimensions of what is an immensely complex problem and attempt to create convergence from among the divergent views of the different interest groups involved.

A new policy for fisheries must be based on information rich planning systems, the concept of co-management of scarce common resources and the development of new modes of business organisation and consumer behaviour. Responsibilities for management must be shared and the short term planning horizons of fishermen and industrialists replaced by agreed long term objectives for the sector. Negotiation among the social actors is a key problem in mediating socially responsible decisions. Ultimately, a balanced planning strategy must take due account of the processes of social change and dependence on fisheries. Otherwise, the planning process will degenerate into a 'lose-lose' game.

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