Small-scale fishing and social science in Northern West Europe. A survey of social science research on small-scale fishing in Atlantic Europe

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This essay is an attempt to survey research on small-scale fishing in various social science disciplines. Our aim is to cover western Europe (Atlantic coast), but admittedly there is a northern bias. Our orientation is more quantitative than qualitative, in that we shall compress the content of 90-odd works in a few pages. And - most important - this survey is still in its embryonic stage: what is presented here are preliminary assessments.

Generally, research on small scale fisheries seems less developed in Europe than in North America, in particular what theoretical aspects are concerned. There is a strong anthropological bias in our European material, and economics is almost absent, except for some economic reasoning by writers from other professions. Moreover, while some topics are fairly well covered - e.g. the organisation of fishery (the «skipper effect»), others have only been most sparingly discussed, let alone subjected to empirical research. Management stands out as perhaps the most empty field in that respect, with only one empirical work.

1. THE LITERATURE

We have arrived at our list of literature by three sources: 1) our own and colleagues' bookshelves; 2) a survey of Fisheries Economics Newsletter; and 3) a survey of of several databases, of which the «Aquatic science abstract» was the most useful. the «social science abstracts» and the «fisheries and...». There is an alphabetical bibliography at the end of this essay. We have been somewhat confused about what to include in the term «small scale fisheries», since a strict definition of this would exclude many works which do have a certain relevance to such fisheries. We have therefore included some works which are of a more general nature too.

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After some reading and discussion we decided to group our discussion of the amount and direction of writings on small scale fisheries into four topics:

- · community studies;
- relationship community larger society (micro-macro) (1);
- organization of fishery;
- · management.

The point of departure within each subject is a identification of the major debate(s) that is going on. We have attempted to give a brief description of the various positions and the «state of the art» within each topic. In some of the topics there are several debates, which are more or less connected. Research on womens' role in society, for example, we have grouped together with writings on relationships between the fishery and community. Some of the works are of relevance to more than one topic, and may therefore be mentioned several times.

2. COMMUNITY STUDIES

This debate concerns the role of small scale fisheries in maintaining settlement in marginal regions, and how various components of the local community together constitute a social ecology. Most works are concerned with limited aspects of the role of a fish plant in providing jobs or recruitment to the boats, but an important theoretical and to some extent empirical contribution is the literature on «employment systems». Other comprehensive empirical works are community studies of more ethnological/ anthropological character.

The basic works on employment systems are Wadel (1980b) and Jentoft (1981), which provides a theoretical basis for analysis local organisation and coordination in fishing communities. «Responsibility» is a core concept in this analysis, which is concerned whith the division of responsibility for the various tasks in local community development. The need for coordination at local level is studied from the point of view, of vessels, slants, households and municipal authorities. The thesis is that local coordination problems, aggravated by scarce resources, can only be solved by improved organisation. Jentoft and Wadel (1984a, b) elaborates further upon this, creating the concept of «employment system» for analysis how various components of a local community are integrated with and dependent upon each other. A few studies are concerned with more limited aspects of the employment system. Hansen (1980) discuss coordination problems between fleet and plants. Gerrard (1980) and Lie (1980) discuss plants, Rudie (1980) households.

Several empirical studies in this tradition are concerned with education and recruitment (Nilsen, 1980; Dalseng, 1980; Hetland, 1984; Tiller, 1984; Gundersen and West, 1984). The role of the employment system in providing informal education as preparation for entering the fishing boat is well documented. In fact, the employment system is also a career system, where one starts and begins with simple tasks in the households and at the plants, and retires at the same places after being too old for the boat. The regular education system provided by public schools may serve to break this chain, in that young people become attracted to other ways of life, or have to leave the local community to get education (Tiller, 1984). Recruitment studies are partly concerned with how and which people are recruited (Trondsen, 1980; Dalseng, 1980; Nilsen, 1980), partly with the consequences of this, i.a. for establishment of new ventures (Robertsen, 1980).

Kristiansen (1984b) points out that what constitutes accepted norms and rules - «the cement of the employment system» are essential to the functioning of the local community. This type of anthropological studies, which are primarly occupied with concepts as norms, belonging and community, and study fishing communities as cases in this respect, are numerous (*inter alia* Cohen, 1980, 1982; Kristiansen, 1984b, 1985b; Midre and Solberg, 1980, Fox, 1978; Thompson, 1983).

⁽¹⁾ Other databases we consulted are the «Dialindex», «Social reasearch», «Sociological abstracts», «Pais international» and «Dissertation abstracts online».

Women in fishing communities have not received much attention from academia. The earliest effort we have found is Gerrard (1983, 1984). Her point is that women, in spite of their invisibility in fishing itself, constitute the ground crew of the fishery. As Jentoft (1981, 1984a) has shown, a fishery depends on a local community which again consists of household, plant and school. Gerrard argues that women i.a. run households, work at the plants, such that their contribution is essential. Their roles are invisible, but they provide crucial services for the running of the system. She is also concerned with the declining role of women is households, and their exodus to other occupations. This may be a severe threat to coastal fishing as a way of life.

A few comprehensive empirical studies exists where the authors have studied local communities by traditional ethnologic or anthropologic fieldwork methods. There is still a long way to go before atlantic Europe is covered by this approach. We found that only patches in a few nations in Atlantic Europe is researched in this way: Gonzales-Laxe has written about fishing communities in Galicia, Horrup (1983) about the Limfjorden area in Denmark, Kristiansen (1985b) about the Mausunvær in mid-Norway, Palsson (1982) about Sandgerdi in Iceland, While Fox 1978 has studied and written about the Tory islanders «on the Celtic fringe».

3. RELATIONSHIP LOCAL COMMUNITY - LARGER SOCIETY

This topic covers a wider range of issues, their common denominator being the impacts of major structural changes in society at large on small scale fisheries. These changes relates both to extension of the state and central direction of many societal functions (HORUP, 1983), legal changes at both national and international levels restricting the ocean «commons» (SAGDAHL, 1982; THOMPSEN, 1983; JENTOFT, 1983), and changes in economic structures.

Many writers here have been concerned with the implications for local communities of centrally directed regulations. This debate is a part of a larger sociological tradition concerned not only with fisheries, but also with the general legitimation crisis in modern welfare states and center periphery relations (HABERMAS, 1973; GALTUNG, 1974).

Palsson (1979) is theoretically concerned with «the legitimation crisis of fishing», where there is a growing tension between fishermen on the one hand and marine scientists and spokesmen for rational management on the other. Exploring the cognitive models of fishermen, he finds that the legitimation crisis stems from the inherent uncertainty of fishing as activity. An understanding of the cognitive models of fishermen shaped by such an environment is essential for centrally directed attempts to cope with regulatory problems.

Major empirical works here are Hobrups (1983) study of «ways of living and central government» in Denmark. Hobrup views political clashes between center and periphery as conflicts not only of a material or economic character, but also conflicts between ways of living. Also Thompson (1983) takes this view, but in addition he emphasises that the threat of extinction to small fishing communities is both extersal and internal. Internally, entrepreneurship and reorganisation are retarded and should be strengthened, if «Britain's fishing communities are to recaptures control over their own destines.» (p. 359). The classical study in this vein - at least in Scandinavia - is Brox's study (1966) on North Norway This is not exclusively occupied with fishing, neither is its successor (Brox, 1984, but both give valuable analyses of how national industrialisation policies turn worth Norway into a «commons» which functions as a buffer in the national economy, with devastating effects on i.a. small scale fishing communities.

MACULAY (1987) is also concerned with the problems created by centrally enacted regulations, albeit in a more brief form. He argues that «policy solutions are fishermens' problems», drawing upon research from the Scottish Highlands. The policy makers have been acting upon limited information about geographical and cultural conditions, and «More often than not policies are inserted into the Highlands context where they not only fail to adress the central problems of the fishermen, but actively militate against their success,» (p. 201).

Similar points are made by Byron (1987), in discussing a fishing community in county Downs in the Republic of Ireland. Byron investigates the center-periphery problems from the point of view of the local fishermen. His findings are in line with similar studies elsewhere: lack of coordination between central agencies with responsibility for various aspects of local community development has created a «number of areas where goals conflict, impairing the anticipated benefits of policies and producing unintended outcomes, occasionally with quite perverse results.» (p. 213). The fishermen are made into scapegoats for policy failures: «the fishermen sometimes have been unfairly blamed and penalised by the agencies concerned» (p. 213). Rather than providing a stable legal framework, government thus constitute another source of uncertainty, in addition to resources and markets, which inhibits planning and development.

Two separate debates here concerns demographic responses of centralisation, and technological change. The demographic effects of central control are a separate literature of relevance here. Many of the works cited above touch upon the topic, e.g. Thompson (1983). Isolated works on this is Olafsdottir (1987) for Iceland, and Eikeland and Nilsen (1988) for Norway. Technological change is discussed by i.a. Pi-Sunyier in relations to Catalan fishing communities, and by Høst (1980) and Hemeray (1986) in a more general manner.

The last debate to be mentioned in relation to the micro-macro topic, is a large anthropological literature which concerns traditional modes of organisation within a modern world. Baks & Postel Cosner have written about the Scottish east coast, Brogger (1987) about pre-bureaucratic organisation in Portugal, and Thompson *et al.* (1983) examine «living the fishing in Lancashire, east Anglia and Moray of Firth.

4. ORGANISATION OF FISHERY

The major debate here is the «skipper effect» discussion, which is perhaps the most intensely researched theme in this review. Quite a few writers have invested considerable efforts in this basically anthropological debate, the general offspring of which is Barth's (1963, 1966) empirical preoccupation with the role of entrepreneurs and his theoretical handling of these matters by «transactional analysis». Barth in turn was inspired by neoclassical economic analyses as well as by Popper's logical scepticism, both of which emphasise analysis of actor's constraints of choice.

Barth's theory seeks to explain why some skippers are more successful than others in herring fisheries. He contends that a vessel that operates on its own has the greatest chance of success, but that a skipper needs the trust of his crew in order to do so. When the crew does not have this confidence, the skipper has to follow the other boats, thus being able to dissipate blame for failure. Since skippers' reputation are based on past records, the most successful skippers will be those who have been 50: there is a Mathew effect here - those who already command -sufficient trust among the crew to engage in search strategies will be most successful. Thus the skipper—effect is self-reinforcing. Other Norwegian anthropologists have accepted this analysis at face value: Brox (1963), for example, states that success of fishing entrepreneurs may be explained by such skill, as have WADEL (1980a) in saying that skilful skippers convert expertise into capital.

The first rebuttal to the theory, which gained wide reputation and was staple fare in basic courses in anthropology at many universities, was provided by Heath (1976). Heath's point is that «Barth's explanation does not provide an account of choice, only of the constraints on choice. Barth's work is therefore no science of social life» (p. 26), neither is it as Barth claims - value-free. It is based on assumtions derived from neoclassical economics. Heath's alternative is however less crisp than his criticism. He maintains that average skippers will engage in information-seeking activities which may not be explained by their expected utility, and that a «follow the others» strategy will be the dominant response.

The final blow to the theory has been dealt by Durrenberger and Palsson (undated and 1982), and Palsson and Durrenberger (1982, 1983). In their work, which is supported by extensive empirical research, they simply state that there is no such thing as a «skipper effect». Having conducted a detailed statistical analysis, of a huge material on fishing success and mishaps, their conclusion is clear: (success in) «fishing for demersal species depends on the size of the boats and the number of trips...» (Palsson and Durrenberger, 1983: 525). In the herring fisheries «success ... depends more on luck, as herring are not as predictable as cod. Relatively little explanatory power can be attributed to other factors, such as those reputedly involved in the skipper effect.» (p. 525). A very interesting aspect with this debate is that it is the only debate where a clear «scientific progress» can be recorded: Palsson and Durrenberger (1982, 1983) have convincingly refuted the explanations of Barth (1966), Wadel (1980a) and Heath (1975).

Other debates within the topic of organisation of fishery are the role of technology in developing fisheries (Host, 1980; Hemeray, 1986); the role of competition and efficiency (Kristiansen, 1984a; Chiaramonte, 1980); and the question of property rights (Wadel, 1980a; Brox, 1984). A theoretical debate on the social organisation of fisheries is conducted by i.a. Debrauvais (1985) and Palsson (1979, 1986). Hallendstvedt (1982) is concerned with organisation in an historical political perspective in his account for fisheries organisations in Norway. There is perhaps no other industry or way of living which spurs so many attempts at formal organisation as fishing.

5. MANAGEMENT

Management and regulation seem currently to be the most fashionable topic in small scale fishing internationally, and is informed by a wider range of disciplines than are the other topics covered here. The field is also relatively well developed theoretically (Acheson and MacCay, 1987), but this owes more to writers from north America than Europe.

Internationally, the debate centers on the role of informal cooperation in local communities under conditions of open access to resources. By way of «economic» reasoning (assuming egoistic rationality) it can be shown that in such circumstances a «tragedy of the commons» easily arises (HARDIS, 1968). Numerous empirical studies of local communities, however, demonstrate that this conclusion is valid only under certain circumstances, and that the problem is the breakdown of traditional regulations based on informal cooperation and sanctions. As far as regulatory measures are concerne, the TURF (Territorial Use Rights) concept is of particular interest, since we believe it is highly relevant also in large scale fisheries management.

In our survey of Europe we have only found few works which are concerned with this debate. Kristiansen (1985a) is a brief survey of some of the international anthropological literature on this topic. The work is theoretical, and criticises the conventional view of regulation in Norway, which Kristiansen considers based on an ill-founded and ahistoric understanding of social systems. The reason for overfishing is not the fishermen's organisation of their work, but the way the market economy works.

JENTOFT (1983) is concerned with the distributional effects of regulation. With most major fish stocks being beyond their critical thresholds, fishery management is essentially a zerosum game. If someone is to win, others must lose. Policy-makers thus face the problem of establishing criteria for fair distribution of losses - which boats that shall be excluded from the fishery, which plants that are to close, and so on. JENTOFT's point is that in doing so, one must not consider a vessel or a plant as isolated economic units, but as components in a larger economic system at local community level.

The only empirical investigation of regulation we have found is Jentoft and Kristoffersen (1987, 1989). Their work is an analysis of the regulation of the rich Lofoten fishery in Norway. This work transcends the local community basis of the international literature of this topic, in that the Lofoten fishery, albeit small-scale in the sense

that only conventional gear is used, comprises up to 10 000 fishermen. The fishery is regulated by the fishermen themselves, but the framework for cooperation is created by government intervention by law. The interesting implication of this work is that insights gained from studies of small scale fishing may be valuable in regulating large scale fisheries. This pertains in particular to institutional design and the sharing of responsibilities between government and fishermen's organisations.

This work bridges the gap between this topic and the issues concerning central regulation and local variation as commented upon above under «relationship local comunity - society» (MACULAY, 1987; PALSSON, 1979). The issue of how central control can be exercised without riding roughshod over local variations related to types of gear, etc., and how this can be achieved by territorial regulations, is too an important theme in modern fisheries management to be neglected in future research.

6. CONCLUSIONS

We have presented a preliminary survey of social science research on small scale fishing communities in atlantic Europe. It has been a formidable task, the importance of which we feel even more confident in now than at the outset of this work. As we have stated - this survey is still an embryo. We have researched and written this work at very short time indeed, and we have also been inhibited by our very limited grasp of latin languages.

We feel that there must be quite a lot of work that has not been brought to our knowledge. This pertains to southern atlantic Europe in particular, but also e.g. Sweden, West Germany, the Netherlands and Belgium are scarcely covered here. It follows that we appreciate all contributions which helps us in making the survey more complete.

Of the four topics we have discussed - community studies, micro-macro relations, organisation and management, the latter in particular stands out as worthy of increased research efforts. Management of large scale fisheries may draw important insights from studies of small-scale fisheries, concerning i.a. regulations and fishermens' participation. Lot of inspiration and theoretical armory exists in the international literature, which in turn will benefit from our European experience when it is subjected to empirical research.

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