

**Are artisanal fisheries backward ?
Artisanal fisheries in modern society, the example of Denmark.**

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**LES PÊCHES ARTISANALES SONT-ELLES DÉMODÉES ?
L'EXEMPLE DES PÊCHERIES DU DANEMARK**

RÉSUMÉ

Les connotations d'irrationalité attachées aux pêches artisanales relèvent plus des modes de pensée modernes que de la matière des faits. Les pêcheries danoises offrent un exemple d'industrie des pêches efficiente et techniquement avancée, bien qu'avec des flottilles de pêche reposant sur la petite ou la moyenne propriété. Les mérites des pêches artisanales ne doivent pas être appréciés par des critères évolutionnistes, mais par leurs performances dans un contexte particulier. Dans certaines circonstances, les assises d'un ordre social spontané peuvent s'avérer supérieures à des aménagements entre moyens et fins qui semblent plus rationnels, pour l'exploitation des ressources marines fluctuantes et invisibles. Dans les pêches danoises, ceci s'applique à l'utilisation de savoirs dispensés sur les opportunités et possibilités.

1. HETEROGENEITY AND RATIONAL ORDER

1.1. Modernity and being «up-to-date»

1.1.1. The term «artisanal fisheries» is here taken to mean small-scale owner-operated fisheries with «traditional» forms of organization. The term has tended to carry with it ideas of backwardness, lack of development or even inefficiency. This poses a problem of bringing artisanal fisheries up-to-date which may have more bearing on the social cosmology to which the concept belongs than on the fact of the matter.

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1.1.2. The modern social cosmology which, with some variation, came to dominate political culture in the West since the Enlightenment was literally an inversion of the feudal regime. In the cosmology of democratic nation states the vertical order deriving its legitimacy from the heavenly God was replaced by a horizontal order deriving its legitimacy from mundane People. The social differences nonetheless remaining were relocated from space (over / under - inside - outside) to time or history (modern - traditional - developed - undeveloped) (VESTERGAARD, 1988). Society seen as the product of human history became a legitimate object for intended improvements to aid its expected course towards a more rational and homogeneous order. Segmental differences among the citizens of democratic nation states were to be a thing of the past, and with a time-scale classification of social differences these would, or could, in time be remedied. Social segments seen as backward would have the opportunity of catching up with modernity, and the same model has been applied in Western conceptions of the colonies.

1.2. The awareness of context

1.2.1. EMMERSON (1980) has given a periodization of scientific views in fisheries research. Summing up, he characterizes fisheries research since the 1950's by a sequence of focuses on three different interfaces : 1) a conservation minded biologist view of the 50's focusing on the interface between fish caught and fish not caught (MSY) ; 2) an efficiency minded economist view of the 60's focusing on the interface between people (firm) and fish (fishing ground) (MEY) ; and 3) a welfare economist view of the 70's focusing on the interface between people and people (distribution and OSY), (EMMERSON, 1980 : 16 and 19). The general trend has been from simpler models with few variables towards a greater sensitivity to the complexity of the problems in their social setting. In the same way theories of social and international inequalities have been subject to changes which are particularly relevant to population segments such as artisanal fishermen.

1.2.2. In the 60's the modernization view of the problem as one of overcoming the time-lag between separate spheres of traditionality and modernity (NASH, 1966: 123-25) was rivalled by a center-periphery conception seeing developing and industrial nations as functionally related parts of a global system (GUNDER FRANK, 1972). The difference was still one of inequality to be overcome, but now seen as a relationship of inequality in a contemporary space rather than separateness in time. The same views could be applied to internal sectors of backwardness in industrial nations. More recently the desire for structural homogeneity still part of the former two paradigms has been met with counter-arguments by BERGER and PIRE (1980).

1.2.3. BERGER and PIRE (1980: 2) argue that industrial societies are so segmented as to make untenable the assumptions that differences within industrial societies are essentially distributed along continuous scales, that industrial societies develop towards internal homogeneity, and that they develop towards convergence with other industrial societies. The internal discontinuities in industrial societies are explained by the need for all such societies to cope with a shared problem of economic insecurity and political instability in the face of the high degree of specialization and labour division in modern industries. All industrial societies need to distribute or redistribute uncertainty, but the way this is achieved differs according to the social, cultural etc. resources available. The distribution of uncertainty and the creation of buffer mechanisms is a matter for policy making, but also a question of social groups trying to shelter themselves. The point of the argument relevant in this context is that "traditional" sectors may be highly expedient for industrial societies, that discontinuities are still emerging and that it is difficult to pass value judgments as to who is better off and what kind of changes are improvements.

1.2.4. The whole issue requires that attention be paid to the complexities of the context and the goals. Obviously it would be problematic to accept a neocolonial division of labour between industrial countries and Third World countries on the basis of similar arguments. But that does not render invalid the argument that the internal heterogeneity of nations is not just a sign of incomplete modernization, and that heterogeneity could be seen as a valuable resource rather than a compromising deficiency. Whether somebody's position in one or another segment

is desirable should rather be left to people themselves to decide than to cultural prejudice of what constitutes a modern state. If so-called traditional segments in industrial societies represent one way of distributing unavoidable uncertainty, it is worth considering whether the alternatives (unemployment, migrant labour etc.) would seem more attractive.

2. DANISH FISHERMEN

2.1. Danish fisheries today

2.1.1. In 1986 10000 Danish fishermen landed 1724 million kilos of fish and crustaceans and 105 million kilos of mussels (FISKERIARBOGEN, 1988: 394) which places Denmark as an important fishing nation in international comparison ⁽¹⁾. The Danish fishing industry is efficient and it does employ modern electronic and hydraulic equipment, but in important respects it is nonetheless artisanal. This applies especially to scale and forms of organization. In 1986 the Danish fishing fleet consisted of 3242 vessels over 5 GRT and a similar number of smaller craft. Among the vessels over 5 GRT 66 % were smaller than 25 GRT and 84 % were smaller than 50 GRT. The majority of the Danish fishing fleet consist of small to medium scale owner operated vessels with a crew of one to three men, often co-owners. The catch is generally divided in shares: e.g. 50 % for the vessel and 50 % distributed equally or slightly graduated among the crew including the skipper. The most common fishing techniques are trawling and gillnetting, but a variety of fykes, seines and other gear is also employed.

2.1.2. There is considerable variety in the Danish fishing industry in terms of species caught, techniques employed, the scale of the enterprises, and the character of fishing settlements (big ports, small ports, open coast). The «average fisherman» is not a pure statistical construction, though, since a large part of the fishermen are running their own moderate scale enterprises based on traditional skills and forms of organization and displaying considerable flexibility and inventiveness as to where, what, and how they fish. Access to fishing grounds has largely been free allowing fishermen to take advantage of shifting opportunities in different seasons and different waters. Essentially, access is still free, but - since the last decade - only within the confines of EEC economic zones, quotas and technical limitations. The same period has witnessed increasing problems with seasonal oxygen depletion in the Inner Waters forcing the practitioners of mobile fisheries to even more nomadic ways of life than before. A 20 GRT trawler could, for instance, go cod fishing in the Baltic in winter, move into the sole fishing in the North sea in spring and early summer, and continue in Kattegat in summer and autumn for Norway lobster. This mobility creates networks of acquaintances on a national scale, especially between colleagues practicing the same kinds of fishing.

2.2. The fishermen's community

2.2.1. The community character of the fishermen as a population segment is born out by their recruitment, too. In 1935-36 (Strubberg) and in 1964 (Finsing) biographical calendars of the fishing industry were published. In both cases close to 75 % of the fishermen are sons of fishermen. Given that the fishermen make up less than a half percent of the total population, these figures certainly suggest that the fishermen are a separate community. Even though there is a strong attachment to the local fishing community, there is also considerable mobility on a national scale. One of the features that suggest a separate and nationwide sphere of communication is the fact that among fishermen in all

⁽¹⁾ It should be noted that fish for reduction has for years represented about three fourths of the catch figures by weight, but only about one fourth by value. Since the larger steel trawlers contribute especially to this category of landings they contribute disproportionately to the catch quantities, though not to the catch value. However, fish landings for reduction (a.o. fodder for mink and aquaculture) are also important for many smaller vessels of the Inner Danish Waters.

parts of the country, and in distinction from the rest of the population, it is common to describe “north” as “down” and “south” as “up”. Being a fisherman is not just a question of profession; it involves a personal and social identity, membership of a community.

2.2.2. The fishing community has a distinctly egalitarian ethos and, in a particular sense, an anti-historical attitude. The egalitarian ethos is widely attested also in other fishing communities (NORR and NORR, 1978), but among Danish fishermen it is further supported by the concentration of fishing enterprises within a narrow range of scale. An anti-historical attitude requires more explanation. The background for this postulate is the frequency with which fishermen during interviews and fieldwork have described changes as reversible fluctuations rather than directional change, or as events within their own social circles rather than part of a historical progression of society at large. This applies to interpretations of problems with oxygen depletion, which have increased in frequency and geographical extent during the last decade. For years many fishermen have continued to maintain that this was a recurrent phenomenon, that has always been.

2.2.3. Fishermen’s accounts of technical development in fishing tend to be given as specific stories of a particular fisherman and/or blacksmith who invented a particular device or technique, or who brought it from fishermen elsewhere, that is, as examples of their recurrent solutions to specific problems. Fishermen’s education has been kept within the confines of the fishermen’s own circles where it is part of general socialization, participation and imitation. Repeated attempts to establish a formal education has been met with lack of interest. It seems that constant adaption to fluctuations and changes are seen as the permanent condition and not as change, but only for as long as the autonomy of the fishing community in terms of forms of organization, free access to fishing grounds and general viability of the fishing industry is not seriously threatened. The surrounding society is obviously a useful resource, but it is questionable how much the fishermen feel themselves to be part of it.

3. IMPLICATIONS OF FISHING

3.1. Economic levelling

3.1.1. Egalitarian order and a view of changes as non-directional could be deduced from a combination of free access and the fact that fishing is hunting. In much the same way an egalitarian and ahistorical order could be deduced from an ideal concept of a perfectly competitive market. But the result of the former deduction seems to have more bearing on the Danish fishing community than the latter has on empirical market economies.

3.1.2. Fishing is not production, but hunting. The resource - fish - is not a controlled component in a production process, but a self-reproducing, invisible and fluctuating resource which is merely caught. The fish cannot be made part in an accumulation cycle of a fishing enterprise unless it can be managed like in aquaculture. Free access to fishing grounds is another obstacle to rent gains and economic differentiation as the classic argument goes. Fishing grounds will attract more fishermen until the point where the fishing effort has brought the yield of all fishing grounds down to the point of merely covering costs and an opportunity income. The result is too many fishermen, too much capital equipment, and no rent. But even empirical confirmation of the argument does not suffice to judge the merits of free fishing unless the specific context and goals are taken into consideration.

3.2. Transient wealth

3.2.1. An empirical objection to the deduced consequences of free access could immediately be raised:

fishermen are not all poor and they are not poor all the time. Some do earn more than an opportunity income, and sometimes they all do. Fish are not evenly caught by all fishermen, and fish stocks, their composition and movements as well as prices fluctuate beyond what can be ascribed to regional fishing effort. The fisherman who catches more, or who obtains better prices, cannot reinvest his profits in the resource, but only in vessel and equipment. But larger vessels require a larger total catch and divert a bigger share of the income to the covering of costs. They are, therefore, more vulnerable to fluctuations in stocks and prices and to quota limitations than small vessels where reduction of personal consumption may be sufficient to carry the enterprise through a bad period. Individual careers of Danish fishermen often show considerable changes up and down in the scale of their enterprises. Only those who place part of their investments outside the fish catching sphere are reasonably safe.

3.2.2. The tendency of free access to dissipate rents and, thus, to function as an economic leveling mechanism does not prevent that some and - periodically - most fishing enterprises earn profits. But the changeability of the resource situation tends to make economic differences among fishermen unstable. The egalitarian character of the fishing community is to some extent factual, but it is always potential, and this deprives the fishing community of reasons to interpret changes as a part of a directional, historical process of differentiation in so far as their own community is concerned.

4. THE DANISH FISHERIES IN CONTEXT

4.1. A unique context

4.1.1. An international comparison of fisheries shows a much more varied picture than the one deduced above. Modern fishing industries of many nations are not as a rule dominated by egalitarian communities of independent fishermen. When this is the case in Denmark it has to be explained why it has been possible for these potential consequences of fishing and free access to unfold. How come that artisanal fishermen pose as a modern fishing industry? The reason is not that traditional fishing has not been affected by modern development. To the contrary, modern development has been essential in creating that unique constellation of conditions that has produced the Danish fishing industry and its culture as it is today. There are a number of natural and social circumstances that have been important.

4.1.2. *Waters.* The scale of the Danish fishing waters is mostly such that it has been possible for fishermen themselves (given the available possibilities for loans) to finance vessels of a sufficient size. With the expansion of sea-going «Danish seine» fishing around the turn of century quite a number of companies based on external capital ownership were active. But with improved opportunities for loans and the introduction of smaller, motorized vessels for this type of fishing fishermen could themselves enter the scene as owners. Company organized fishing enterprises have remained relatively unimportant.

4.1.3. *Stocks.* The fish stocks are characterized by a seasonal variety of several demersal and pelagic species geographically distributed over several areas of sea from the Baltic to the North Sea. There are few opportunities for specialised large scale fisheries.

4.1.4. *Markets.* The Danish fishermen have always been a minority in a densely populated country with the rest of the population as an easily accessible market. Furthermore a large European market has been within easy reach. Thus fish marketing has not been restricted to economically powerful fish buyers and exporters. To the advantage of the fishermen there have been, and still are, relatively many fish buyers and exporters. Fishermen have themselves taken initiatives to influence the sales of their catch. Since the 1920's fish auctions have been established in most ports

of some size; in smaller places the solution was to start cooperative sales associations. Only few among the marketing and processing firms are involved in ownership of fishing vessels. Fishing and marketing/processing are separate spheres.

4.1.5. Infrastructure. To put the specificity of this situation into contrast one could compare with the situation in Atlantic Canada ⁽²⁾. It is a distinct advantage that Danish fishermen are not situated in a marginal area, but in a fully-fledged modern society that is not dependent on fishing and gives ready access to crucial resources and services (supplies, technical service, transport facilities etc.).

4.1.6. Interest groups. Organized interest groups play an important role in Danish society. That applies to the fisheries, too. Most fishermen are members of professional associations. Even though there is notorious disagreement on numerous issues the associations represent only the interests of independent fishermen. These organizations are consulted by the fisheries ministry, and they are represented in numerous commissions and institutions relevant to fisheries issues (Dansk Fiskeritidende no. 2, 1989: 10). This has been an important asset for the fishing community in promoting favourable conditions for its own viability.

4.1.7. Capitalism. Finally capitalism, the growth of modern industrial society and the markets created in the process made it possible for people to increasingly to become full time fishermen since the late 19th century. Without this condition fishing could not have given rise to a social community adapted especially to the implications of fishing and with professional community attachment rivalling the importance of local community attachment.

5. ARTISANAL EFFICIENCY

5.1. Modern artisanal fishermen

If independent small to moderate scale fishermen utilizing traditional forms of skills and organization are artisanal, then the majority of the Danish fisheries are artisanal. But they are no vestige of the past, they are a modern phenomenon and they eagerly take advantage of any useful opportunity offered by modern technology. The problems of the last decade - oxygen depletion, diminishing stocks, reduced access to Baltic fishing waters, quotas etc - have caused serious difficulties. But these difficulties are not due to the artisanal character of most of the fisheries except in so far as they are efficient.

5.2. Efficient utilization of dispersed knowledge

5.2.1. Efficiency can be defined in different ways. The Danish fishing community excels in a particular kind of efficiency, namely the ability to communicate and utilize dispersed knowledge of fishing opportunities. The explanation is related to the redundancy often attributed to artisanal fishing. Too many units engage in fishing efforts disregarding scientific biological and economic knowledge. The modernist idea was that waste and redundancy should be rationalized away by the application of science in the process of production combined with ends-related forms of organization unhampered by the resistance of traditional social bonds. But it is precisely the social character of the nexus between fishermen which turns redundancy into efficiency. They are competitors, but within a social

⁽²⁾ *The Canadian situation, especially Newfoundland, has been dealt with in much of the research at The Institute of Social and Economic Studies, Memorial University, St. Johns, Newfoundland. Presently a research project on the fishing industry of Nova Scotia is being carried out by a team of researchers at The Gorsebrook Research Institute, St. Mary's University, Halifax.*

community of exchange, where the currency is information and where the exchange itself seems as important as the economic utility of the information. The ability to make use of the information is due to the fact that most small and moderate scale units are adapted to fish for different species in different waters and, sometimes, with different techniques. Besides, decision making takes place at the level of the catch unit and motivation is high with most vessels being skipper owned and crews being paid with shares of the catch.

5.2.2. The fishermen form nationwide social networks especially with other fishermen practising the same kind of fishing, and this applies to mobile as well as to stationary fisheries. Information is exchanged in personal conversation, over the radios on board and in telephone calls from home. Information on the performance of others enables the fisherman to judge his own performance, and rumours of temporal fishing opportunities in other waters spread quickly. During fishing operations each fisherman makes his decisions on the basis of the experience of many fishermen. Even though fishermen may to varying degrees be secretive about their performance, the pattern of information management appears to be considerably more productive among Danish fishermen than among Newfoundland off shore trawler skippers, where ANDERSEN (1973: 161) estimates that it is an obstacle to efficiency.

5.3. An example

5.3.1. A trawler skipper explained that he would be towing for 3 to 4 hours at a time with a speed of 3 1/2 knots. He would thus cover a stretch of perhaps 14 nautical miles. On his way he would meet or be in radio contact with perhaps ten others towing in the same manner. He would not be on speaking terms with all of them, but with two radio channels open he would be able to overhear most other conversations. In addition to this he would be able to find out in port the approximate daily landings of each vessel and combine this with a rather precise idea of where they had been. As everybody else he would regularly make telephone calls to colleagues in other places to hear how they were doing and whether perhaps it was time to go there. The information circulated in such social networks does not only form the background of individual decisions but also of communal decisions. Thus in the home waters of the above mentioned skipper the fishermen took the initiative to ban trawling during week-ends to prevent overfishing already in the 1950's long before legislation to that end was initiated.

5.4. Community as resource

Each knows that he knows something nobody else knows. This is what qualifies him for membership in the exchange community. Together they know that the sum of their knowledge of time and place exceeds what any single outside agency could ever know. As long as this knowledge is productive it will tend to confer on the fishing community the character of a secret brotherhood, an endogamous community in terms of information exchange. What could be called traditional social forms of communication between separate units in a competitive, egalitarian community have become increasingly important as a productive asset for economic decision-making in a modern context where it is necessary for most fishermen to utilize different fish species and fluctuating stocks in seasonally and annually changing parts of the heterogeneous Danish fishing waters.

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