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“Oh my Captain! My Captain! noble soul! grand old heart, after all! why should anyone give chase to that hated fish! Away with me! let us fly these deadly waters! let us home!” The mate Starbuck to Ahab few days before the catastrophe. From Melvilles “Moby Dick”

Danish seine fishing from Thyborøn.

Insiders and outsiders in regulation and the local knowledge of fishing technologies

The necessity of having a conservation policy to avoid depletion of fish stocks is a common conviction among politicians, bureaucrats and scientists. By managing the fisheries it should be possible to increase the economic efficiency from the industry and maximize the benefit. When the Common Fisheries Policy (CFP) of the EU use phrases like ‘balanced exploitation’ as in the first *basic* regulation, 170/83¹ Establishing a Community system for the conservation and management of fish resources, or ‘rational exploitation on a sustainable basis’ as stated in 3760/92² Establishing a Community system for fisheries and aquaculture, it must be kept in mind that there is no consensus about which policy this implies at all.

From a legal and political point of view the major part of The North Sea is common water to the European Communities, but the exploitation of marine resources like fish stocks, is carried out by fishermen from a great number of different societies. It is done through various forms of enterprises with different types of ownership and fishing gears. These differences often entail clashes of interests, but they also constantly create cooperation.

In the debate on fisheries policy, several sides want to set a ‘ecological’ view on the

agenda, e.g., when environmental organizations take part in the debate on allocation of resources with viewpoints on a sustainable fishery. People debate these issues based on quite different kinds of knowledge, where the extreme consists of economical/biological models and scientific analysis on one side and the environmentalists' often emotional attitude on the other. In contrast stands the fishermen's wide experiences of the ecology of the sea as well as their understanding.

In my research, from which I here present some preliminary results, I deal with the Danish seine fishery from the North Sea harbour of Thyborøn, Denmark, the most important harbour for this fishing technology in the country. The Danish seine is often considered a technology containing elements needed for a sustainable fishery, e. g. low fuel consumption and only slight or no impact on the seabed or bottom fauna. In addition, and partly because of low energy input, Danish seiners have often been involved in instances of conflicts in relation to other users of the sea, e. g. beamtrawlers.

General themes in my studies have been: which ideas do fishermen have about their gear and its environmental impact? Which ideas do they have about the gears of other fishermen? How are the conditions of interchange between the fishermen's knowledge on one side and the scientists, e.g., biologists on the other?

In this paper I will make a review of interviews with skippers and deck hands in the Danish seine fleet operating from Thyborøn collected in the spring 1993 and the spring 1994.³ I focus on themes as: actual regulation and the scientific basis for this and point of views toward alternatives to the present regulation.

Danish seine is notable in a EU context. This is especially true for anchor-seining, which is the predominant way Danish seine is practiced by the Danish fishermen. Main target species in this fishery are cod, plaice, haddock and saithe, but many other and often expensive species such as hake, anglerfish, turbot or catfish are taken as well. There has been a shift from plaice as main target species towards cod during the last 20 years. In addition to the fleet of seiners many big trawlers fishing solely fish for reduction are registered in Thyborøn.

The construction of a harbour at Thyborøn was finished in 1918, but there has been fishing activity along the coast of Jutland for centuries. The first main sea fisheries were those in the spring and the autumn for cod and haddock with long lines. Danish seine fishery for plaice with deck boats has occurred since the late 19th century. The major part of the boats then came from other parts of the country, fishing only seasonally in these coastal waters.

The Danish seine fishery from Thyborøn can be classified as small scale fishery with boat size mainly with a tonnage between 20 and 60 and the overall length of 15 - 25 meters. If one should relate this kind of resource utilization to the discussions of *tradition* and *traditional*

knowledge one would need a concept of tradition that includes the possibility of a tradition characterized by constant innovation, expansion and flexibility. Looking at the development of the fishery from Thyborøn in a historic perspective, it has been characterized by:

- Moving to new and more distant areas. Shifting gears and/or target species in accordance with the abundance of the stock or available prices on the market.
- Operational improvements (more precise setting/fewer fail settings etc.) by means of experience and still better equipment like instruments for fish finding or for position determining. And by using better material and mechanizing as well.
- Expanding fishing to greater depth or into areas with stones or lots of holds where setting used to be too risky. Use of bigger seine nets and/or heavier gear.

This means that when I am talking about Danish seiners I refer to fishermen on vessels equipped with this gear in the spring of 1993. Some have formerly been rigged out as trawlers or with longline, and some, at least for a period, with gill net. Nearly all skippers and crew have some experience with other gear types. But for me, when I made my interviews at least, they were all 'seiners'.

The fishing technology of Danish seine

I will here describe briefly the anchor-dragging method, which is the predominant way the gear is used in the Danish fishery. Occasionally some will set hauls as fly-dragging or fly-shooting as the Scottish seiners or the Norwegian seiners do. In the anchor-dragging method less power is needed than in the fly-dragging operation. In the former method the gear, rope warps and net, is hauled in by winch, while the vessel is laying for its anchor, in the latter the gear is towed and hauled in at the same time.

The fishing principle of the Danish seine is quite different to that of e.g. trawling. In the Danish seine fishery one depends on the flight reaction of the fish, and the operation can be seen as a kind of an encircling technology: the end of the first rope warp is attached to a mooring buoy and the vessel sails out the set - shooting out the coils. Before setting the net, which has been shackled to the other end of the rope warp, one turn is made and the vessel will be at right angles to the mooring buoy. After the net has been set, the second warp is sailed out and the vessel heads back to the anchor place with the mooring buoy. Some 3000 - 4000 meters of rope are used on each rope warp. The shape of the area encircled varies as does the size, depending on the character of the specific fishing ground. Wrecks, stones and other snags

must be avoided, so that the gear does not fasten. Compared to the huge space being encircled in one operation, not unusual 7 - 8 km², the technology does not possess as great fishing capability as e. g. various kinds of trawl technologies. But indeed it can be a very energy efficient one.⁴ The size of crew is three - four men including the skipper, most often three.

The background

I mailed the first letters to 30 skippers fishing from Thyborøn asking them to participate in the project by giving interviews in the spring of 1993. This was a time when years of discontent with the management of the fisheries had just culminated in a strike. The vessel owners refused to go fishing. A harbour blockade against fish import from Norway had resulted in a riot-like situation. This and several related cases of controversies among the fishermen themselves, had brought the fishing communities all over the country to the melting point.

The Danish authorities had chosen a way of regulating the fishery, which had the effect that a great part of skippers had been rule breakers for several years. In particular the way the decreasing quotas of cod had been allocated to the fleet as fixed rations on a quarterly basis to all vessels resulted in massive violations of rules. It was claimed that the limitations on catches meant that the majority was not allowed to fish enough to make a living. The main claim made by the participants in the strike was, as formulated by the chairman of The Thyborøn Harbour Fisheries Association Anton Lilleøre: "The politicians have to give us decent conditions now."⁵

This situation made it easy for me to make appointments - the skippers knew that they would be at home, not on the sea. It probably also influenced the will to participate.

Procurement of viewpoints especially on the regulation policy was of great interest to the majority of fishermen, as were some more specific circumstances pertinent to the Danish seine fishery. This does not mean that no one rejected to participate. One did it so with the sentence: "No. It would not do any god if more people get mixed up in that."

It is also part of the back ground that a great part of Danish fishermen, doubts that a conservation policy is needed. This is opposing the opinion held by the majority of Danish politicians and bureaucrats. A condensation of views most frequently expressed by fishermen would go something like this: "a fishing industry without any interference from state authorities is preferable. It is not possible to empty the sea at all." Concerning economy such condensation would go: "the fishing industry, if the politicians just would let it alone, would be self-regulation. If a fish stock decline to a certain level, it would not pay to exploit it and a shift towards other species or areas would take place." With such negative attitudes toward the basic ideas of fisheries regulation (as well as the simple need for income), is no wonder that the present Danish catch regulation measures hold so little legitimacy.

Among my informants only three out of 19 skippers claimed to carry out a legal fishery. The rest call themselves scoundrels and make comparisons with pushers and pimps. But they do not look upon themselves as criminals anyhow.⁶

Presentation of the group

As I mentioned above, I contacted 30 skippers, including the chairman of The Thyborøn Harbour Fisheries Organization, a skipper who owns a Danish seine vessel, but at the present works full time for the organization. Three of the skippers were chosen because I knew they had participated in the debate about allocation of the Danish cod quota, the rest was chosen by chance from the vessel list in the Fisheries Yearbook 1993, for practical reasons excluding those few where not living in the municipality which consists of two communities: Thyborøn and Harboøre⁷. Three skippers out of the sample did not fish with Danish seine (gear is not listed in the yearbook), four skippers did not want to participate (one found a substitute!), One vessel had been withdrawn, I never had the occasion to interview three skippers, and I never succeeded in getting in contact with one skipper. All together 19 skippers were interviewed from the Danish seine fleet in Thyborøn of some 65 vessels. The age of the interviewee was between 26 and 71, half of them being more than 50.

Most of the Danish seine vessels are between 20 and 60 gross tons in size, or with an overall length of 15 - 25 meters, all wooden boats with the exception of one 160 tons steel vessel, fishing predominantly by fly-shooting or with trawl. The average size of the main engine is 200 HP. Fishing grounds, or anchor places, are situated over the Whole North Sea, but the fishing takes place mainly in the northern part, and in the coastal area, ranging from few miles and out to 220. In the last years there has been only very little fishery in The German Bight and along the Dutch coast because of low availability of plaice and cod in these areas. As mentioned the target species are mainly cod, plaice, dab, haddock and saithe. Besides these many others and often expensive species such as hake, anglerfish, turbot or catfish, lemon sole, witch and several other species, are parts of the catch.

The fishery can be divided into two types referring to the main fishing grounds in use. According to the fishermen there is The Inner Sea, which is the coastal area inside the Jutland Reef (approximately 40 - 50 miles) and here the fishery is, or at least have been for the last years, predominantly a fishery for round species, cod and haddock. The smallest vessels will be engaged in this fishery. The rest of the North Sea is called The Outer Sea, and here either a mixed fishery as in the north is carried out or a cod fishery, like the winter fishery in the central parts of the North Sea in January and February. The Outer Sea is where the bigger vessels are engaged, especially in the winter fishery, a time of the year where the weather conditions can be extremely rough. This is a role-of-thump - there are over laps and exceptions. The duration

of a fishing trip varies according to season, target species and area - the range between few days and up to more than a fourth night. The carrying capacity of fresh water is in general small. Shower and toilet is still customary only in the largest vessels. On many vessels there will be no toilet - just a bucket.

In the spring of 1994 I went back to Thyborøn and made some 11 interview with fishermen employed on Danish seine vessels, an employment where the wage system is on a share basis. I did not have the opportunity to write to this group or to make a random selection. I contacted fishermen employed by some of the skippers that I had been interviewing the year before. The age of the interviewee in the selected group of 11 was between 18 and 52. One of them was not employed by any of the informant skippers, but was chosen because he was in charge of a club under the trade union. I cannot say that they are representative for the entire group of fishermen employed on the Danish vessel fleet at any given time, but with my present knowledge of this fishery, I believe that they represent *types*, with the respect to organization and experience. Two in this group of interviewee did not live in either Thyborøn or Harboøre.

Of the 30 interviewees only one, a skipper, did not want the interview to be taped. The rest was taped and subsequently typed out.

Themes in focus among Danish seiners

As an introduction to the presentation of results, I will give some considerations on methodology. As a matter fact, reflections on this issue do reveal some general tendencies. The interview is a unique interpersonal situation where two persons react in relation to one another, and both have an influence on the other. It is in this specific situation data is constituted and collected. I conducted the interviews in a way to make it possible to describe and understand the life-world of the skippers, in respect to the general themes of the project - Which ideas do fishermen have about their gear and its environmental impact? Which ideas do they have about the gears of other fishermen? How are the conditions of interchange between the fishermen's knowledge on one side and the scientists, e.g., biologists on the other? It has been suggested (Kvaale 1983) that the agreement between the interviewer and the interviewee should be understood as a contract. It is said: "the qualitative research interview is based on meaning, which again rest on a subjective understanding." Therefore: "A philosophy of science which starts by denying, or attempting to eliminate interpersonal interaction and subjectivity in research, can hardly contribute to the clarification of the specific mode of understanding in the interview, whose very basis is interpersonal interaction and subjective interpretation." (p. 183). As mentioned, the interviews took place in the specific context of a political situation where great parts of skippers were lawbreakers, and an event (the strike) which made the role of science topical. The interpersonal relations - those between the researcher as a person and the

informants created on the spot during the interview or the key talks, or unfolding during participation in a fishing trip, are part of the context as well. Many fishermen expressed a strong need for an advocate to defend their interest in proportion to the management system. It is not that easy to reject that role. This has to do with differences in the conception of science. Many fishermen will look upon science as a tool in the hands of politicians to control their lives through fishery regulation measures. These measures set up restrictions in opportunities for the individual to unfurl as an independent and self-regulated person through his skill - at least in the short run - which is still the ideal for the majority. My presence as a social researcher reflected for them, the fact, that the time when fishery was a self-regulating system had come to an end.

Two matters relevant for the topic of the project emerged through the interaction between interviewer and interviewee. On the one hand, the role that the interviewees tried to assign on the researcher gives an example of the perception of science. On the other hand, even if the role of advocate was to be accepted, it would be impossible to act on behalf of the whole community. Requests of this kind made it most clear, that regarding views on regulation measures and interests, no single coherent group stood out.

In my working through the transcription of the interviews I have for each of them tried to make as faithful as possible a condensation of the views expressed⁸. From this material I have drawn out the following themes, which I regard as the themes in focus. I have given them the headlines: Criticizing the scientific basis of the recommendations given fisheries biologists. Criticizing other fishing technologies. Criticizing the present regulations. Point of views towards an alternative regulation. Each of these entails specific topics, statements, arguments and speculations. I have build up my presentation around these.

Criticizing the scientific basis of the recommendations given fisheries biologists:

- Unreliable catch and landings figures.

The fisheries biologists don't get reliable data from the fishery, with the present high degree of violations of quota regulations and the subsequently and substantial misreporting of catches and landings. Everybody knows this. Out of 19 interviews with skippers only three claimed to fish legally according to catch restrictions. Some fish more than the double of their share. I find this attitude very nicely described by the skipper who said: "But now they have managed the fishery in a way, so that we have to fish and be scoundrels. Then they act on the wrong

assumption that what we write in the log book is true, what it surely is not. "

- Fish moves - no one knows better than the fishermen. Trawl surveys as they are performed are not valid in stock estimations.

One of the most common stories was the one about the research vessel making surveys on sites, where the fishermen have experienced there are never fish. They do not understand what the fisheries biologists are doing, their models and so on. Most of the fishermen want to establish themselves as the leading experts. One young fisherman said: "The biologists have too much power, and too little knowledge."

Some, but few, will be positive, like the skipper, now retired, who compared the biological science with that of meteorology, where it is now possible to give weather forecasts for the next five days. It is just that the biologists need much more funding, to reach a higher level of probability.

- It is hard for the Danish seiner fishermen to understand the claim of fisheries biologists that there is no relationship between the numbers of recruits and the spawning biomass over a wide range of the latter.

A long dispute has been going on between gill-netters and seiners about conservation measures on the cod stock. Should the spawning fish or the small ones be preserved? The most common metaphor is the comparison they make to the farmer stating that he does not slaughter his sow the week before it is going to farrow. They say that this is exactly what gill netters do - that they always are fishing on spawning fish.

- Biologists are neither independent of their superiors, nor of the politicians.
- The fisheries biologists are not unanimous in estimating the size of the stock. You can find one that will support the fishermen, but the biologists employed by the state are partial - they have to be or they get sacked, some have stated. The ones that are collecting data on board, can hardly express any opinion without risk, another stated. They are like a louse between two nails.

Criticizing other fishing technologies:

Beam trawl fishery

- destroying bottom fauna

Everybody has an opinion on this topic. Most of the informants see the beam trawling activity as destructive. Some do not find it proven because they recognize that the beam trawlers always come back to the same area. Wholes with soft bottom, former good sites for catching

plaice, were said to be destroyed. The prey called "small white worms" had disappeared, and so had the plaice. One old skipper told that on one such site he had one third of his earnings in all his years. It had been in just two sets. Two skippers with long experience from trawl fishery did not believe that the beam trawl could penetrate particularly deep into the seabed.

- a great amount of discards/damaging fish on the bottom

It is an observation made by several that in places where beam trawlers has been fishing for some days, the seine net will bring dead fish and fish with wounds on the deck. There can be a rotten smell as well from the bottom material

- operating on stone reefs that were formerly preserved from fishing activity

Beam trawling like trawling with heavy bobbins' gear on stone reefs causes changes, it is said. There are numerous observations showing that peaks and boulders are leveled out by means of the great energy input.

- destroying fishing sites and/or opportunities for Danish seiners

Stones are dragged out from the reefs and causes new snags or fasteners for the Danish seiners, who need smooth bottom for their operation. The heavy gear from the beam trawl can create grooves and ridges, which could make it difficult to haul the rope warp over the seabed. On the opposite I was told of several incidents where the skipper from a beam trawler had been trying to remove stones or pieces of wreck. Some stated that the plaice is getting 'wilder' after beam trawling has occurred. This is said to be the explanation why Danish seiners fishing in same sites as beam trawlers with really high catch rates, have had bad catches in the same period.

- waste of resources

Fishing with beam trawl is based on a very high level of energy inputs. It was argued that this is not economically for society. It would be better to have more work places in the Danish seine fishery. One put it this way: "But such a beam trawler fishing for eight days, he uses just as much fuel, as we use in three years. And they are six men or five and we are three. And we certainly get our living too."

- supersede Danish seiners from fishing grounds

Many incidents of conflicts between Danish seiners and users of other gear are experienced. The most frequent being the conflict with beam trawlers (mostly Dutch or Belgian). This is a conflict between unequal parties it is often stated, because the Danish seiners cannot operate if the beam trawlers want them to go away. Recently there have been great improvements in the

cooperation on the fishing grounds between the Dutch beam trawl fishermen and Danish seine fishermen. Several stated that some Dutch skippers who used to fish from Thyborøn, had helped with the communication. The son of one of these, now married to a Danish woman, and the owner of a beam trawler registered in Thyborøn, frequently acts as translator or even as a broker. It was also said how smart these people were - acting as collaborators. By doing this they got an inestimable knowledge about the fishing sites.

At the moment it is in the interaction with Belgian and UK beam trawlers that the Danish seiners encounter conflict situations. Especially the Belgians were said to be very difficult to reach on the radio. "We can call them, but they do not answer us. If they started to talk to us, they know that they have to follow the rules," one said. Still conflicts were often explained in a way, as the one who said: "There are always some men who act like bandits, isn't it like that everywhere?"

Gill net fishery

- always operating on spawning fish aggregation

The major part of the informants expressed a strong opposition against gill net fishery because of this. It's a dispute about regulation, so I will return to it below.

- discardings in the turbot fishery and lost nets (ghost-nets)

It is a common experience when fishing in the central part of the North Sea in the summer, that lost gill nets are caught on the rope warps of the Danish seiners. Many of my informants made estimates of the by catch of cod in this fishery. There were also complaints against all the nets that several of my informants believe will be fishing for long time after they are lost. A few mentioned the by catch of harbor porpoise in the gill net fishery as well. One said: "And now look at something like the gill nets for hake (..) Now wait and see in a month or two, then there starts coming harbour porpoises on the beach. Where do you think they will come from? The gill nets for hake! (..) You try to pay attention to this - now they'll soon start writing about the issue in the newspapers"

- operating on stone reefs and wrecks that formerly were preserved from fishing activity
- This is said less as a statement against gill net fishery as such, but merely as a note about the state of the fishery in general. There are seldom elements of competition on stony areas as the Danish seiners can't fish there

- lost nets causing trouble in the operation of Danish seining

When nets are caught on the rope warp they will be twisted on these and it can be a laborious task to cut them loose. And, because it is necessary to stop pulling the gear, there is a big risk

of losing fish.

- occupies great areas (turbot fishery)

Complaints about this were common, but often followed by remarks like this one "well we are all going to be there." This is a very common phrase toward the operations of other fishermen, operating with other technologies. But the gill netters have to respect the first-on-the-site rule. It happens that this rule is broken, and the gill nets are set too close to a seiner, without prior conference over the radio, where agreements are made. If so, it is seldom done on purpose. It can happen in foggy or dusty weather. One told how he had reacted, when he woke up one morning and saw that a row of gill nets stood as hindrance for his planned evening set: "then I ask: when are you going to move them? (..) They should stand for three weeks! Such filthiness! Then we simply set the gill net on our bollard (..). And then we towed it in the opposite direction. Then he moved."

Criticizing the present regulations

- The fishery is a self regulating system

People in this occupation in this part of Denmark are political liberals. I found that the opinion of the great majority of my informants, skippers as well as deck hands are, that the fishery should be left to itself. The argument is commonly reasoned this way: When one specie becomes less abundant, or the catchability is low, or in periods with low prices, there will be a level under which fishing for that specific species does not give a pay off big enough to maintain the activity. The effort will be switched to other target species. Among my informants I have not found anyone, who expressed an understanding of MSY, MEY or those kind of arguments for managing the fishery.

These very liberal statements are often softened by sentences like the one mentioned above: "we are all going to be here," or: "But this is from my point of view" and "But are we not all selfish?", often said in a voice of excuse or regret. This was in particular the case with those of the informants who are rooted in the strong religious tradition that exists in this part of the country.

- Subventions are bad

Not even bad - they are evil, several said. If a man cannot do it properly without subvention, there is no reason he should stay in the industry. The clever fisherman will always be able to make a living anyhow. Of course this is connected with the overall rejection of regulation.

- The quota system has not been enforced and cannot be

As one said: "as long as there is a demand on the market, they cannot stop these violations."

The regulations that divide the national quota into vessel rations have not been enforced, because there has not been the political will to do so, was a widely held opinion. I was told about a meeting in Harboøre in 1991, where the Fisheries Minister, Kent Kirk was present. After a while members of the press were asked to leave, and the fishermen were asked to tell the truth - which they did. One man raised and asked the Minister what he had to say about the illegal landings, and he (according to my informant) replied: "Just as long as you don't do it in a to gross way" ("Bare I ikke gør det for grove"). The following statement describes a commonly expressed feeling: "The pride one felt before over a big catch is gone nowadays. Now you are anxious about it until the fish has been sold. They totally take away the energy from people."

- The quota system will result in discarding

If the fishermen should stick to the rules, and only one of my informants does this (or at least he did it) the consequence will be that good eatable fish have to be thrown back into the sea. This is the 3. of their GREAT STORIES, told for instance in these words "And when he had thrown the fish back to the sea, all the sea gulls came and starting picking in these big cods, as they were floating with the current along the ship's side."

- the way Danish quotas have been allocated is not fair

This unfairness is because Danish seine fishery for cod is a seasonal fishery in the period may to September. But it is better now, when the quota is divided into quarterly or two-monthly rations of equal size, and not like in the start where the biggest parts were allocated in the first quarter, where the gill netters have their main season. Some felt that the size of the ration should be proportionally to the size of crew, and not as it is now - proportional to the overall length of the vessel.⁹ Anyway the amount is too small to divide, so how can it be done in a fair way?

Point of views towards an alternative regulation

Technical

- minimum mesh size and landing size of fish

The minimum mesh size that is now 100 mm is seldom used. Mostly mesh size is 105 - 110 mm in the cod, haddock and some mixed fisheries and up to 120 mm in the plaice fishery. Some have pointed out that this is the best way to regulate - and the easiest to enforce, too. But then the legal landing size of fish should be the same for all EU member states, and not like today, where the minimum size of e.g. cod is 330 mm, compared to the Danish of 400 mm. It is not fair that fishermen in other countries are allowed to fish the fish the Danish fishermen

have to discard.

- closed areas and 'boxes'

The plaice box¹⁰ is a god thing, because the competition is less hard in the period where big trawlers are not allowed to fish there. It should be enlarged to 60 or 70 miles and be permanent and not, as at the present where the big beam trawlers can fish inside in the first quarter, which they do, and with a very large effort. There was some critique on the engine power limit. It was said that the new small beam trawlers had a great fishing capacity, although one mentioned that they too, could not't catch any plaice. One skipper found that a closed area in the Central North Sea in the spawning season of the cod, would be a fair and efficient conservation measure.

- closed seasons

A large group find that the best thing would be to have a prohibition on spawning cod and plaice in 2 or 3 month. It was claimed that this would be an efficient conservation measure and much better than a mesh size regulation. If cod or plaice was protected in the spawning season, there would be better recruitment to the fishery years later it is argued. In the next sentence most of the informants stated that the gill netters don't like the idea, so that it was not realistic. But they cannot understand, that the fisheries biologists do not agree with them on this issue.

- restrictions in the use of certain gears

"The beam trawl should be forbidden," "it should never have been invented." "The authorities should never have given their permission to this technology in the Danish fishery." "The gill net is the worse thing ever taken in use in the fishery." These are all common expressions, but again, like I mentioned before, softened with the fraise: "we all have to be here." Still there are strong wishes for restrictions on the two kind of gears. For the gill nets in a certain period, and for the beam trawlers on certain grounds - the stone reefs. To the major part of my informants it just don't seem to be political feasible.

Input

- restrictions in the size of engine power - measured in thrust

Some said that this should have been done a long time a go, because it is the best and probably the only way a restriction in the capacity of the single vessel could be estimated - and easy to enforce as well. One stated that it had been unfavorable for the Danish seine fleet that the fuel prices had been declining.

- limited entry

A deck hand, member of the Union came up with the suggestion that there should be limited entry for the capital. He made a connection to the upraise of factory trawlers operating outside the North Sea, and the state of the stocks. Several was of the opinion that there should be limited entry as far as beam trawlers were concerned. But limited entry is also commonly seen as not needed; "We are all going to be here," as they said.

- limited as 'days at sea'

The most common suggestion was a limitation in days at sea in combination with the right to land the total amount of what was being caught. Several could put a number on as well. 120 days would be sufficient they said.

- lay up subsidies

There was a great frustration about the scrape program¹¹. Lots of god vessels have been cut into pieces. It would be better to save that capacity in the fleet, because it could be needed in the situation where the fish stocks increased to former levels (or the quotas). Several of the deck hands argued in this manner for saving future work places.

Output

- individual quotas

Only one skipper was advocating this principle, stating that this might be a god thing for him, because it would give him a better opportunity to plan the fishery on the year basis. He did not want it to be a system with transferable quotas. I was told that a transferring of vessel rations actually takes place, though it is not legal.

A broader context

In the real world of my informants there is no clear distinction between the themes. They are tangled into each other. What I am trying to do here is to make some kind of order to describe what is seen as good and what is seen as bad in the present regulation from the Danish seiners point of view. After going through the themes and the condensed meaning of what was said in the interviews I will try to place it in a common sense of understanding.

It is evident that only in a very few statements were there coincidence among all. Actually only two and these were the statement that the present quota system has failed because of unreliable catch and landings data from the commercial fleet for predicting stock size and the subsequent statement that the catch regulation has not been enforced.

Dividing the statements into categories I find two main groups:

One group states that the fishery is a self regulation system, which does not need to be ruled

from the outside. The fishery as a free enterprise holds an opportunity for the clever fishermen to stay in business. The forces of the market will over time determine the level of effort in any given fishery.

The other group consists of those who think that some kind of regulation is necessary. The extreme position here is the wish for a ban on beam trawl fishery with the arguments of resource waste and too few work places or the support of a system with some kind of individual quotas. The former can be seen as a discussion on how the plaice stock should be harvested with a maximum yield economically or socially, and is the closest I got to the idea of an optimal resource utilization, which is the basis for the economical theories of fishing. Both are themes that deck hand workers are more concerned about than are the skippers.

At this level of analysis I consider more than what was actually said and try to put this into a broader context. The fishermen live in a world with laws and rules for how the resources must be exploited and to whom the right to do so is allocated. They fish for different species; cod being the most important but in part of the year at least some skippers will go for plaice or do a mixed fishery - as I have mentioned above. Fishing on different grounds as they are, they have quite different experiences with other fishermen, and the knowledge or their opinions of what actually goes on the seabed are filtered through their operational praxis. The total number of sites or anchor places in use vary a great deal. One stated that more than 90 % of the amount of fish they landed in a year was caught on only 4 sites. Sites that he has been working up together with his father. Another said that he used a great number of places through out the year. This also explains some of the differences in attitudes towards other gear technologies and regulation measures.

Besides, we are dealing with a group of fishermen. A group which, although rather homogeneous as far as vessels and gear are concerned, consists of individuals with different outlooks on life. On this part of the coast religion provides a meaning for many people. When they talked about what they considered destructive ways of fishing like the beam trawl I often heard the phrase "Yes but this is from my point of view, and we are all selfish" - underlying that they should not be, but "love thy neighbors as thyself." This is not the place to draw any conclusions on this aspect, but I think it has some importance in the search for another management regime.

What I know is that morality do have an importance in the way fishermen think about violation of the law. Law-breaking was a practice among the majority, in the form of exceeding the boat rations. This is practically the only law they break - never mesh regulation, size limits and so on which holds a great legitimacy. There are several ways of by-passing this regulation. Misreporting on area and/or species being the most widespread. Another one can be exchange of rations from a vessel that has not used its ration to one who exceeds. Legal ways of

adjusting to the present situation with low rations is maximizing the value of the landed fish are high-grading (which only few said they did practice) and landing it in boxes ready for the auction. One advantage with icing the fish in boxes at sea, is that this makes it much faster to get the fish into a truck on the key. One told that he had experienced that an amount of 10 tons of fish was out of the way in only 20 minutes.

As I mentioned only three of my informants claimed to fish legally. A fourth skipper had several fines because of exceeding the ration. He had done nothing to hide it, but said that you could not decide how much cod would go into the seine, and when the rations was exceeded he refused to throw good eatable fish back into the sea, so he landed them and sat the for sale at the auction. Several times he had phoned to the Fisheries Department and talked to a leading officer to convince this man about how grotesque the situation was.

What do the fishermen want instead? No clear line can be drawn. But a large group see restrictions in days at sea as a way out combined with the opportunity to land the whole catch. Stating as several did that 120 days was enough, it is my guess that this would not be a restriction in the overall effort for this fleet. The other main suggestion - closed spawning season, as a conservation measure, was proposed by the ones that did not go for cod at this time of the year, or went to sea at all. In this respect it can hardly be seen as anything else than a suggestion of new allocation pattern on the expense of the gill net fleet.

The suggestion of restriction in engine power get support from most of the seiners because they do not use so big a machinery, but nobody really believed that this is a possible way. Maybe if it is combined with closed areas like the plaice box at present.

Individual quotas had only little support. Nobody wants to have the concentration they believe this will bring about.

Commons, what commons?

“We are driven away from it. You can get a job on Cheminova¹² and keep an eye on some bottoms. That isn't a life for a young man, especially not for a fisherman. I am a fisherman. It isn't that easy to change a man.” Fisherman, age 26, from Harboøre.

“I am not fishing as a labour of love. It is simply necessary. (..) I have been seeking employment at several places, which I would take if it was offered to me. Yes I have .. yeah my wage has not increased since I started fishing, no has not increased at all.” Fisherman, age 36 from Lemvig, who have been fishing since the age of 17 except two years employment on a slaughterhouse.

Today the commons of local communities are on the agenda. The commons I have been dealing

with in this paper are fishinggrounds of The North Sea, which is common water to the European Communities and can be used jointly by fishermen from the member states.

The Danish seine fishery from the port of Thyborøn exploits several fish stocks in the North Sea in fisheries more or less mixed. So do fishermen from many other harbours in the whole North Sea area. They are all local communities in a North Sea context!

Localities such as fishing grounds or sites have often names in different languages, and the fishermen's knowledge about them can be quite diversified: according to target species, gear used, other tools and devices, experience etc. etc.

The point of views on the just and right utilization of the resources that were expressed by my informants the group of Danish seine fishermen, can be seen as a part of the universal discourse on how the renewable resources of the sea could be managed in an equitable and sustainable way.

Some of the main questions this analysis of interview's raise are: What is actually known about the resources? What is known about the state of fish stocks and about the benthic community and the environmental conditions? How is it possible to reach some kind of agreement on these matters between the involved parties? And if such an agreement after all should be reached, what should be the objectives of the fisheries management be?

Bearing in mind that this is not only the issue of hot discussions between the fisheries biologist, and a homogeneous group of fishermen: Many groups of fishermen, as already mentioned several times through this paper, are involved in the exploitation of some twenty fish stocks in The North Sea - even individuals are involved! Individuals with great difference in values, experience, knowledge etc. as my interviews show.

Wilson & Acheson (1994?) are of the opinion that when fishing policies around the world has tried to control the amount of effort in the fishery and the quantity of fish caught, this has not been successful. This is said to be due to the chaotic or complex character of fisheries systems. They suggest that fisheries management systems should create rules to maintain the basic biological processes. This would be a system where decisions on how to fish, when and where is much more important, than the decision on how much of the fish resource there might be caught. What they are advocating is a conservative or precaution approach.

I found such attitudes expressed by many of my informants, as shown above, in the debate about gear impact on the environment and in the concern about spawning fish. But as stated: this is the desire of the Danish seiner, other fishermen might have other view on this. They know that precaution will, at least in the short run, mean that someone have to leave an area, alter the gear, or shift to other technologies - ultimately leave the business. So the

question is here who shall bear the burden? Mike Holden¹³ has described this very central question in the discussion on conservation policy and fisheries management: "... politicians have been unwilling to take the difficult decisions which fixing objectives involves. They are difficult because they require making choices not only between different levels of employment and different rates of reward but also different groups of fishermen, each having specific and conflicting interests." (p. 231)

The growing awareness in the public about environmental issues have increasing effect on political decisions. It has also brought along a growing interest for research in the field (or at least enhanced the possibility to raise funding to research programs with environmental approach). Now, closing areas for beam trawl fishery is on the agenda, as necessary if one should be able to say anything about the long term effect of this fishing technology.¹⁴ The first step of the division of the sea on the basis of rather new principles seems to be taken.¹⁵ It appears obvious that the next steps could not be taken without negotiation over future allocation of rights to resources.

Wilson & Acheson argue for some kind of local level governance institutions "since the information problem created by the spatial and temporal diversity within these systems demands an attention to detail that cannot be achieved by a centralized authority" (p.) If such an approach should be tried out in relation to the fish resources of The North Sea, one needed to find and agree on what is the 'local level', which might be a difficult task.

In a paper of Anthony Scott (Scott, 1993) he uses some aspects of modern organization and management theory to suggest what difficulties arise with the introduction of self-government in fisheries. He pay attention to the destrubutional problems, and claims that all self-management systems fail to solve problem created by over fishing.

ITQ's, Scott states, provide a ready made exogenous destrubutional basis, and he is of the opinion that "...self-control of individual fishing pressure cannot be solved endogenously" (195) Without solving the problem with distribution - and the fear for a change in the pattern of this - no conservation policy is really possible.

At present the important decisions are taken at the general, not national or local level, at the Council meetings of the European Community. Although the majority of the Danish politicians, including all who have been ministers for the fisheries ever since Denmark joined the Community in 1973, have been supporting an European integration toward 'The Blue Europe', the gab between the agreements at the Council meetings and the life of the fishermen is still enormously. ITQ's has been seen as one solution and several attempts to get this idea on the agenda has been done. The fishermen organizations have not wanted this except the trade union SiD organizing fishermen employed on share basis.

Kent Kirk the former minister for the fisheries has always been arguing against ITQ's

and advocating for technical conservation measures. As minister he has often stated that the danish points of view had an influence on the decisions at the EU level.¹⁶ The price for gaining such influence, was that the Danish authorities always acted as "the nice boy in the class", by quick implementation of the decisions from Bruxelles. There is reasons to believe that this, as far as some of the TAC'c concerned, was just a play for the gallery. A play that was performed during the years when the former fisherman, former member of the European Parliament etc. Kent Kirk was minister and took part in the negotiating at the Council meetings.

As mentioned above one of the alternative forms of regulations that might be supported by the Danish seiners is the limitation on days at sea. Today a pilot project takes place involving ten Danish seiners, eight of them from Thyborøn. In nine month this year the skippers involved are allowed to fish without catch limitation, on the condition that they accept to have a satellite transmitter installed on board their vessel. The position of the vessels are observed - and information is gained to central authorities. It is a way for the Danish authorities to implement a EU directive on control by mean of a satellite monitoring program, too. For them it provides valuable information about the Danish seine fishery, like the fishing capacity of the single vessel as well as reliable catch figures, figures that present are so highly needed in the stock assessment.

Maybe the development of the satellite monitoring program on the long term also could be a tool in the hands of the fishermen an originate possibilities of new kinds of co-operation? Until now Danish fishermen have had a very heavy and emotional resistance against the idea of being watched by a satellite. On the other hand such program establish a new information flow. Information that could give rise to a new commons, through insight in what 'the others' are doing, which is the precondition for negotiations about common future objectives and the co-operation it takes to reach them.

1. OJEC (1983), 26, L 24, pp. 1 - 13

2. OJEC (1992), 35, L388, pp. 1 - 36

3. Collected during 6 month employment on Torbens A. Vestergaards project on social and cultural conflicts in the fisheries exploitation of common resources. The project is a part of the nordic research cooperation "Common Property and Environmental Policy in Comparative Perspective"

4. In my thesis (Eskesen, 1991) I compared the fuel/catch weight ratio on two fishing trips for plaice in which I had participated. On the trip with the Danish seine it was 0.25:1 whereas on the trip with a beamtrawler it was 1.33:1.

5. HAVFISKEREN (1993), Vol. 8, no. 6, p. 6

6. For a 9 month period in 1993 alone 19 cases with claims for fines and confiscation against owners and skippers of Danish seine vessels registeret in Thyborøn was raised. The total amount beeing 4.5 mill. kroner. Trials can now be executed after a sentence from the Supreme Court resently have been setting up a precedent for future cases. Until then 500 cases of violation against (mainly) the catch regulations where held back in the system. At least 6 of my informants have up to 600.000 kroner hanging over their heads - for violations done in 1993! I have reasons to believe that for some it might just be 'the top of the iceberg'.

7. Harboøre, the old fishing community, situated 10 km to the south of Thyborøn is well known from the novel "Fiskerne" ("The Fishermen") by the Danish writer Hans Kirk. The

novel describes the harsh material conditions and the stern religiosity among a group of fishermen at the turn of the century. Inhabitants in the entire municipality today are 5.227 (1/10 1992 figure). Besides the fishing industry and some tourism a big chemical plant, Cheminova, is the main source of income.

8. I am inspired by Kvaale 1983 in this method

9. Divided in length groups 12 - 16 meter, 16 - 20 and 20 - 24, but the size of crew is normally 3 in all categories. The cod rations which are bigger than for previous years was for March and April this year 18 ton, 20 and 22.

10. The Council Regulation 3094/86 laying down certain technical measures for the conservation of fish resources, OJEC, 29, L288, pp. 1 -10, 1986. Which is done on the proposal from the ACFM stating that a considerable gain could be obtained in the yield of North Sea plaice by closing areas in the eastern North Sea, where the abundance of young fish is great. This is don by seasonal restriction of certain fishing activity in the second and third quarter: Bottom trawling with engine exceeding 221 kW is prohibited in great part of the coastal areal, from the Northern part of Jutland (57° N) to somewhere around Texel (53° N), The Netherlands. Last modification by Council Regulation 1796/94, OJEC, 37, L187, pp. 1 - , 1994.

11. Subsidies have been distibuted to owners of 579 Danish vessels under various scrape-programs. Many vessels of an much lower age than the awerage of approximately 30 in the Danish seine fleet, have been withdrawn!

Only five Member States of the EEC had met their objectives in accordance with the Council decision on reduction in fishing capacity. Denmark was 1. of january 1992 well below the objective laid down in The Multi-annual Program for the Fishing Fleet in both tonnage and kW units. The Netherlands for exampel did exceed the objective with 69.000 kW

(no measurement of tonnage). (Holden (1994), pp. 23 - 32)

12. See note 6

13. Mike Holden the British fisheries biologist. For 11 years he was one of those 'Eurocrats', as he calls it, in The Commission for the European Communities, DG XIV, where he for some years was the head of the Conservation Unit.

14. FISKERITIDENDE (1995) no.14, p. , se also de Groot, S. J. & H. J. Lindeboom Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea, Netherlands Institute for Sea Research

15. In Agenda 21 chapter 17 in the "Rio Declaration" deals with the sustainable use and conservation of living marine resources under national jurisdiction, the states commit themselves to topics such as the use of selective gears, use of environmental sound technology as well as assessment of the environmental impact of major new fishery practices (section D).

16. See e.g. HAVFISKEREN (1990) Vol. 5, no. 35, EF er sat i positiv bevægelse hen mod danske synspunkter

Litterature

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