Critical report of current fisheries management measures implemented for the North Sea mixed demersal fisheries - DTU Orbit (06/10/2019)

The present report is an EU-FP7-SOCIOEC Report giving an overview and critical evaluation of the current management measures implemented for the North Sea mixed demersal fisheries and the fish stocks involved in this. Also, this involves review, for which critical evaluation of the scientific advice supporting the fisheries management for the North Sea mixed demersal fisheries and the stocks involved herein. Management of the demersal roundfish and flatfish fisheries in the North Sea is conducted mainly through the EU Common Fisheries Policy (CFP) and the yearly EU-Norway Bilateral Fishery Agreements. The prevailing management system and principle has been landing quotas (TAC, Total Allowable Catch) mainly based on the EU principle of relative stability in the international sharing of the TAC. Also, general effort limitations and technical measures are set for the EU and Norwegian fisheries on top of the TAC regulations. Technical measures have mainly aimed at reducing the retention and discard of the juveniles through gear measures and to protect the spawners and/or recruits in the fish populations through closures. Furthermore, the management is based on a set of national measures especially concerning control and enforcement measures, national distribution of the overall TAC, individual special technical measures, allocation (distribution) of national TACs to different fisheries and vessels including the share to e.g. Individual Transferable Quotas (ITQs) or Vessel Quota Shares (VQs). The management of the North Sea demersal fisheries has changed quite a lot over the last decades following the need to rebuild the fish stocks, and in particular the North Sea cod stock in relation to the present case study. The CFP has increasing focus towards implementing multi-annual or long term management plans (MAMPS, LTMPs) partly to avoid the annual political battles over setting the TAC. There has furthermore been a trend during the last decade to move away from the Precautionary Approach and towards Maximum Sustainable Yield as the overarching management objective and Harvest Control Rules (HCRs) based on this. There have been introduced increasingly restrictive fisheries-based effort limitations with possibilities for exemption or for less drastic effort reductions provided that cod avoidance behavior can be demonstrated. Although the decision-makers under the CFP have had a reputation of consistently setting TACs way above the scientific advice, the development in recent years has been towards this gap being reduced.

Management of the fisheries has undergone a number of structural and behavioral changes, and these have already yielded some positive results as the state of the demersal stocks in the North Sea have globally improved. The status of main demersal stocks has considerably improved over the last decade. Fishing mortality has globally decreased and biomass has increased, and most of the assessed demersal stocks are now within sustainable limits. Some issues remain with North Sea cod, for which recovery is slower. At present, cod is the limiting species for all the North Sea demersal fisheries. Over a time span from the 1960s landings of demersal stocks have declined with an accelerating decrease since the mid-1990s in line with the falling stock sizes and regulated reductions in total allowable catches (TACs). A clear decrease in the mean fishing mortality (F) is observed in the 2000-2010 period with current F values between Fmsy and Fpa, and the spawning stock biomass (SSB) has on average been above Bpa for the period 1983-2010 for the assessed stocks. The effort in the central North Sea and along the Norwegian waters has decreased as well as the number of operating fishing vessels (capacity). Overall, the nominal effort (kW-days) by European fleets using demersal trawl, seine, beam trawl and gillnet in the North Sea, Skagerrak and the Eastern Channel have been substantially reduced (-20% between 2003 and 2011). Since 2000, the total fish biomass for exploited stocks in the North Sea is about 4-5 million tonnes with an increasing trend in the most recent years. Despite the decrease of landings and fishing mortality in the last recent decade, the overall recruitment has shown a clear decreasing trend from 1985-2010. The recent increase in SSB during the last decade, which is likely due to lower landings and fishing mortality levels in the last 15 years, indicate inclinations of the North Sea ecosystem to recover. However, this has not converted in higher recruitment levels in the most recent years in which there may be a time delay. There is a clear trend that both the gross profit and the net profit has improved from 2008-2010 for the main fleets of the North Sea with the only exception of the Dutch beam trawlers 18-24m, for which the gross profit decreased by nearly 90%. The positive development in economic performance measures has improved from 2008-2010 for the main fleets of the North Sea with the only exception of the Dutch beam trawlers 18-24m, for which the gross profit decreased by nearly 90%. The positive development in economic performance measures can be a result of the structural changes that have recently occurred in many fisheries. There are fewer vessels sharing the available resources (reduction in over-capacity). Especially, the movement towards right-based systems is expected to have had positive effects on reducing the over-capacity and improving the economic performance of many fleets. Historically, EU subsidies over the years have contributed to making the fleet more efficient, so the success of the CFP in the area of developing an efficient fleet has historically contributed to its failure in relation to conserve fish stocks, as overcapacity is consistently mentioned as one of the fundamental reasons for the conservation failure historically. Employment in fishing as a social indicator is shrinking, not least for the North Sea, and has been so for many years. There are multiple explanations for this: i) individual vessels are getting more efficient, ii) consolidation of fleets whereby fewer vessels catch the available resources with noticeable decrease in number of operating fishing vessels, and iii) decreasing fishing opportunities in the shape of lower quotas. The raw number of fishers tells a story of a sector that in reality, at least in the prosperous countries around the North Sea, provides only few jobs. Despite the above trends indicating positive effects of the most recent fisheries management of the North Sea mixed demersal fisheries there are a row of general problems in the present management. Population dynamics with respect to recruitment variations, sub-populations and changes in distribution of several demersal North Sea stocks influenced by environmental factors besides fishery are not fully understood and taken into consideration in management (and management advice). Also, biological multi-species interactions between the stocks are not fully taken into account in the management of the stocks when setting the MSY management and exploitation limits for the stocks. Management is not based on broader ecosystem and multi-species objectives, but based mainly on single stock objectives. Also technical interactions between fisheries are not taken fully into account in management of the North Sea demersal fisheries. The fisheries targeting cod, whiting, haddock, saithe, flatfish and Nephrops in the North Sea and Kattegal-Skagerrak are mixed demersal fisheries for towed gears. Mixed fisheries considerations are of primary importance for the management of North Sea species. Single stock
management is a cause of discarding in mixed fisheries, because individual stock management objectives may not be consistent with each other. As such, the TAC of one species may be exhausted before the TAC of another, leading to catches of valuable fish that cannot be landed resulting in over-quotas discard. Overall, present management and fisheries policy is characterized by the CFP having in many ways taken form of a classical intergovernmentalist, state-centric command-and-control, top-down management system, where member states’ ministers in the Council have exercised strong control over the fisheries management measures which have been developed and adopted on the background of proposals from the Commission and the Parliament, though since the ratification of the Lisbon Treaty the Parliament has assumed a role of co-legislator alongside the Council. EC has identified the lack of stakeholder involvement as one of the major weaknesses of the CFP, recognizing that this fact clearly undermine its legitimacy. Establishment of the Regional Advisory Councils (RACs) with the 2003 CFP can be seen as the first formal attempt to generate a network of multi-national, multi-interest advisory organizations with a strong regional focus among other involving resource users in the decision making. However, the RACs have at present only an advisory function on decisions and are not formally integrated directly in management on a regional basis, i.e. the RAC system is primarily intended to provide a regional stakeholder perspective to the Commission’s deliberations rather than providing stakeholders with real decision-making authority. RACs constitute, nevertheless, a move towards regionalization of the fisheries policy. Present management is, furthermore, characterized by a high degree of complexity, bureaucracy, and examples of micro-management where different management systems and measures are implemented in parallel making evaluation of impact of the individual measures and systems very complicated and the system suffers from lack of transparency. With respect to the complexity the different management measures are acting top of each other with impact on the same fisheries and stocks at the same time (and with time overlap in their implementation) creating a very complex management and associated advisory system, where it is difficult to distinguish specific effects and impacts of each individual measures implemented. Accordingly, it is also very difficult to make scientific management evaluation and advice associated to the individual measures.

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