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Deep Sea Fisheries

ABSTRACT

Deepwater demersal fisheries resources continue to be vulnerable to overexploitation, because of their low productivity and weaknesses in existing governance mechanisms. These fisheries are generally to be found on the high seas and the information needed for their effective management is often deficient and legal means to ensure that data are provided and that participants manage their operations responsibly are often lacking. A number of actions are proposed to better document the existing management challenges of these fisheries as a basis to developing more effective management regimes.

INTRODUCTION

1. Concerns over the management and governance of deep sea fisheries and related issues were raised at the Twenty-fifth Session of COFI when “several Members referred to the need for the improved management of deep sea fisheries, especially those that are discrete high seas stocks and noted that international law requires further development in this regard”. Several Members invited FAO to play a disseminating role for the measures adopted by regional fishery bodies (RFBs) relating to deep sea fisheries. Members welcomed the convening of the DEEP SEA 2003 Conference by the Governments of Australia and New Zealand, in cooperation with FAO, in Queenstown, New Zealand, in December 2003. Members noted that this Conference should, *inter alia*, address management issues. Members also requested that the next session of COFI be informed of the results of the Conference. It was recommended that deep sea fisheries should be included in the agenda at the next Session of COFI recognizing that these species require conservation and management at international level.” (Para. 26 of the session report).

THE ISSUES

2. **Insufficient information.** Experience in managing deep sea fisheries shows that a significant increase in the information is needed to ensure their sustainability and enable good management decisions. Information, where available, shows that there is more variability in deepwater fishes, their habitats and fisheries, than had been assumed. But, deficiencies characterize the knowledge of the relevant biology, how these ecosystems function, and data of catches, species composition, bycatch

and the location of fishing effort. New technologies do offer opportunities to obtain data and extract information, but acquiring information on deep sea resources and fisheries remains costly and a particular challenge for developing countries.

3. **Environmental impacts.** There is much concern about the adverse effects of fishing on the deep sea benthos, which in some habitats have been severe. However, the difficulty of observing these effects means that only a poor understanding of the extent and importance of such adverse effects exists. It has been suggested that some areas should be protected from the effects of fishing - at least until the collateral effects of deepwater fishing are better understood and quantified.

4. **Difficult assessments and management inaction.** Authorities have often acted too slowly to collect and analyze the data needed to sustain these rapidly developing deep sea fisheries. Estimates of sustainable yields from deep sea fisheries have characteristically been too high indicating a systematic failure in assessment procedures and insufficient risk aversion. Meta-analyses may improve the confidence in management decisions in these data-poor situations by benefitting from information on other species.

5. **Management difficulties.** Many of the challenges faced in the management of these fisheries are similar to those encountered in coastal fisheries. There are some well-managed national and international deep sea fisheries but the management of such fisheries is usually unsatisfactory due to information deficiencies, risk-prone decision-making, failures in governance regimes, optimistic management and conservation measures, and non-compliance with the requirements for responsible fisheries. Consequently, many deepwater resources are depleted and require rebuilding. Fish-finding, vessel positioning and capture technology have progressed, opening new opportunities for fishing in deep areas, increasing simultaneously the risk for species historically protected and the urgency of much improved management. Sustainable use of many deep sea fisheries is possible but will remain constrained by the prevalence of long-lived species with low biological productivity and the high cost of resources and management information calling for caution.

6. **Governance weaknesses and failures.** Few regional fisheries management organizations (RFMOs) have a mandate to manage deepwater species, which are generally to be found in the high seas situations. It is only recently that some countries have legally required their vessels to report high seas fishing information and many States still have no provisions to ensure the supply of data from these fisheries. Given that usually these fisheries take place in the high seas, they may be commonly characterized as unregulated and unreported. They might be considered illegal *stricto sensu* only where and when in breach of applicable measures adopted for instance by a competent RFMO and binding the flag State concerned under international law. Compulsory vessel-monitoring systems can mitigate these problems but the lack of widespread and unstinted national support of management means that support RFMOs objectives and related management measures remains to be achieved.

7. Because of the perceived weaknesses in governance, the United Nations General Assembly (59th Session, November 2004) in its Resolution on Oceans and the Law of the Sea, (A/59/L.22, Paragraph 73) decided, *inter alia*, “to establish an Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction, to: (a) Survey the past and present activities of the United Nations and other relevant international organizations with regard to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction; (b) Examine the scientific, technical, economic, legal, environmental, socioeconomic and other aspects of these issues”. In a separate “omnibus” resolution on fisheries (A/59/L.23, Paragraph 66), the UNGA called upon States “to take action urgently, and consider on a case-by-case basis and on a scientific basis, including the application of the precautionary approach, the interim prohibition of destructive fishing practices, including bottom trawling, which has adverse impacts on vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold-water corals located beyond national jurisdiction”.

ACTIONS TAKEN

8. In December 2003, the Conference DEEP SEA 2003 was held in Queenstown, New Zealand. Organized by the Ministry of Fisheries, New Zealand and the Department of Agriculture, Fisheries and Forestry of Australia, with the technical cooperation of the FAO Fisheries Department, it was

financially supported by the Fisheries Research and Development Corporation of Canberra. Preceding workshops dealt with: (i) Assessment and Management of Deepwater Fisheries; (ii) Management of Small-scale Deepwater Fisheries; (iii) Conservation and Management of Deepwater Chondrichthyan Fishes; and (iv) Marine Bioprospecting. The Plenary Conference addressed the themes of: (1) Environment, ecosystem biology, habitat and oceanography; (2) Population biology and resource assessment; (3) Harvesting and conservation strategies for resource management; (4) Technology Requirements; (5) Monitoring, compliance and control; (6) Existing policies and instruments; and (7) Governance and management. It also identified and documented the needs for future action¹.

9. The Fisheries Department has undertaken three consultations to review and document the status of deepwater fisheries in the Southern Indian Ocean. This activity has been supported through a consultation to establish a management regime for this area. A watching brief is kept by the Department on such fisheries in other parts of the world.

10. The Fisheries Department has participated in global forums to review problems arising from fisheries associated with seamounts and assess the potential of marine protected areas for conservation of biodiversity and recover of associated fish resources.

11. FAO regional fishery bodies provide a means of reviewing the management requirements of potential deepwater fisheries and technical advice can be provided by the Fisheries Department. Most notably, such discussions have been held at the FAO Fishery Committee for the Eastern Central Atlantic (CECAF).

12. FAO also participated in the debate on deep sea fisheries during the fifth meeting of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (New York, June 2004). The meeting addressed the issue in the wider context of biological diversity of the seabed in areas beyond national jurisdiction but focussed its attention on the specific question of high seas bottom trawling and on the proposal made by some participants of an immediate moratorium of these activities. No consensus was reached on that proposal. FAO had the opportunity of stating the present views of the Organization on this matter, which are reflected in the present document, and of informing on the process leading to consideration of the issue of deep sea fisheries by COFI.

13. The Fisheries Department continues to advise Members on the potential for, and problems in, developing deepwater fisheries as requested on a national basis.

FUTURE POSSIBLE ACTIONS

14. Many actions are required if deepwater fisheries are to contribute to global food security, social welfare and maintenance of biodiversity and the quality of fish habitats.

15. Globally-coordinated efforts are needed to document past deep sea fish catches, fishing effort and its effects upon the benthos. This will require determining species composition, stock origins and the likely catch-size composition of past and, commonly, no-longer extant fisheries. Many of the past fisheries occurred when there were few, if any, obligations to collect information with the detail necessary for resource management purposes. Such data are often only available from the fishing companies themselves.

16. The current status of deepwater resources and fishing activity must be documented and monitored to enable resource assessments and the development of risk-averse harvesting strategies. Though many States with high-seas demersal fisheries now require their vessels to report on these fishing operations, providing that information for regional management purposes can raise difficulties. Solutions must be found so that the necessary information on these deepwater fisheries can be secured in appropriate formats and in sufficient detail and protected by appropriate security arrangements to ensure that national requirements of confidentiality are satisfied.

17. Further progress is needed to correct present deficiencies in governance regimes through changes to existing arrangements, development of new forms of high-seas management regimes, and

¹ Presentations at DEEP SEA 2003 are available at <http://www.fish.govt.nz/current/deepsea/> The report and proceedings of the Conference will be shortly published by FAO.

ensuring the funding, coordination and effectiveness of these activities. The following sections identify actions for which critical attention is required.

18. *Overall analytical review.* There has been progress in stock assessment, harvesting and management strategies, protocols, standards and practices. However, progress and the standards of practice among different management regimes have been uneven and a critical and analytical global review would be of benefit, particularly where deepwater fisheries are now developing. This review should also examine the existing knowledge of the biology of relevant species.

19. *Ecological impact assessment.* The damage, past and present, of inappropriate trawling methods on deep sea fish habitat and its potential to reduce future stock recruitment must be addressed, through an evaluation of the status and threats to deepwater fisheries habitat. While many instances of damage to benthic fauna has been documented, a much broader assessment of the possible extent of this problem is needed together with an evaluation of potential mitigating measures, means of implementation, and the jurisdictional mechanisms needed to address protective or remedial measures.

20. *Bycatch documentation and analysis* - including of long-lived benthic fauna - has been recorded in many deepwater fisheries but the extent of this practice varies among fisheries and locations. Except where vessels carry observers, little information has been collected and made available for assessment of the impact of deepwater fishing on bycatch species. A coordinated global effort should be implemented to ensure that bycatch data are collected, archived and reported. Based on such information, improved assessments should be undertaken in a globally coordinated manner of the effects on bycatch of deepwater fisheries to ensure that experiences, lessons and conclusions can be shared among those involved.

21. *Strengthening regional fisheries bodies (RFBs).* The importance of RFBs with mandates for management of deepwater fisheries is clear. However, many such bodies, where exploitation of deepwater fishery resources is an actual or potential issue, do not address this issue, or lack the legal and/or technical competence to do so. A global assessment of the role and mandate of existing regional fisheries bodies in this context would identify where assistance would be of benefit in improving regional governance of deepwater resources. This review should identify where no mechanisms for deepwater fishery management exists.

22. *Review of the global coverage of management of deepwater fisheries.* Concurrently, an inventory of deepwater stocks and fisheries that are not covered by any fisheries management organization would identify existing, or potentially, unregulated deepwater fisheries. This inventory could be complemented with an assessment of existing and, or potential, concerns as to the sustainability of deepwater fisheries resources, fish habitat quality or other issues relating to conservation of deepwater biodiversity.

23. *Review of the current legal regulatory framework.* Existing arrangements for the governance of deep sea fishery resources, particularly for the high seas, have, for various reasons, usually failed to protect them. The current legal regime for governance of high seas fishery resources has a number of shortcomings, such as the non-applicability of the 1995 Fish Stocks Agreement to discrete high seas fish stocks, the relatively weak obligations relating to protection of biodiversity applying on the high seas, and the incomplete regulation of deep sea fisheries, regionally and globally.

24. *Development of an FAO code of practice.* Given the particular management requirements of deepwater demersal fisheries, many attending DEEP SEA 2003 were of the view that it would be useful to draft operating guidelines for such fisheries. Recommendations as to how these fisheries should be managed would build on the results of the other possible post-Conference activities mentioned above.

SUGGESTED ACTIONS BY THE COMMITTEE

25. The Committee may wish to consider and comment on the types of actions suggested above to improve the sustainability of deep seas fisheries and identify those requiring priority action from FAO Members and the Secretariat.