

Report of the

**FAO WORKSHOP ON THE IMPLEMENTATION OF THE FAO
INTERNATIONAL GUIDELINES FOR THE MANAGEMENT OF DEEP-
SEA FISHERIES IN THE HIGH SEAS – CHALLENGES AND WAYS
FORWARD**

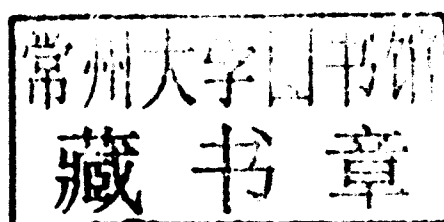
Busan, Republic of Korea, 10–12 May 2010



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PREPARATION OF THIS DOCUMENT

This is the report of the FAO Workshop on the Implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas – Challenges and Ways Forward held in Busan, Republic of Korea, from 10 to 12 May 2010. This meeting was organized in response to the need to analyse the barriers to the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas (FAO Deep-sea Guidelines). This Workshop identified specific programmes of work and activities that will be needed to advance implementation of the FAO Deep-sea Guidelines. The Workshop was organized by FAO and funded by the Government of the Republic of Korea and by the Government of Japan.

FAO.

Report of the FAO Workshop on the Implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas – Challenges and Ways Forward, Busan, Republic of Korea, 10–12 May 2010.

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ABSTRACT

A Workshop to analyse the challenges and propose ways forward for the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas (adopted in 2008) (FAO Deep-sea Guidelines) was held in Busan, Republic of Korea, from 10 to 12 May 2010. The meeting was attended by participants from a wide range of disciplines, experience and geographic areas. The report is divided in two parts. Part 1 provides the meeting summary and the main conclusions and recommendations with respect to general considerations, governance, support to developing countries, management issues, compliance and enforcement, vulnerable marine ecosystems (VMEs) and review and implementation processes. Part 2 contains the background documents on: (i) issues with respect to fisheries management in areas where there are regional fisheries management organizations/arrangements (RFMO/As); (ii) VMEs in areas where there are RFMO/As; and (iii) both topics in areas where there are no RFMO/As.

It was concluded that the current Workshop provided a good opportunity to establish an overall view of implementation and discuss challenges faced. However, given that many states and RFMO/As have only just begun to address many of the provisions in the FAO Deep-sea Guidelines and the United Nations General Assembly (UNGA) Resolutions for the purpose of their implementation it was suggested that additional meetings to evaluate the challenges and potential solutions in the implementation should be planned for the future. Additional evaluations of the implementation of the FAO Guidelines could also encourage relevant parties and stakeholders to continue their efforts on implementation. Specific programmes of work and activities that will be needed to advance implementation of the FAO Deep-sea Guidelines were also developed.

ABBREVIATIONS AND ACRONYMS

ASCLME	Agulhas Somali Current Large Marine Ecosystem
BCC	Benguela Current Commission
CA	competent authority
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
COFI	FAO Committee on Fisheries
CPUE	catch per unit of effort
DCO	data collection officer
DSF	deep-sea fishery
DWFN	distant water fishing nation
EEZ	exclusive economic zone
ENGO	environmental non-governmental organization
FAO Deep-sea Guidelines	International Guidelines for the Management of Deep-sea Fisheries in the High Seas
FIRMS	Fishery Resources Monitoring System
GFCM	General Fisheries Commission for the Mediterranean
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ICNAF	International Commission for Northwest Atlantic Fisheries
IGO	intergovernmental organization
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IPOA	international plan of action
ISA	International Seabed Authority
IT	information technology
IUU	illegal, unreported and unregulated
KCDP	Kenya Coastal Development Project
MACEMP	Marine and Coastal Management Coastal Environment Project
KOFA	Korea Overseas Fisheries Association (Republic of Korea)
MCS	monitoring, control and surveillance
MIFAFF	Ministry for Food, Agriculture, Forestry and Fisheries (Republic of Korea)
NAFO	Northwest Atlantic Fisheries Organization
NCEM	NAFO Conservation and Enforcement Measures
NEAFC	North East Atlantic Fisheries Commission
NFRDI	National Fisheries Research and Development Institute (Republic of Korea)
NGO	non-governmental organization
NMFS	National Marine Fisheries Service (the United States of America)
NOAA	National Oceanic and Atmospheric Administration (the United States of America)
RFMA	regional fisheries management arrangement
RFMO	regional fisheries management organization
SAI	significant adverse impact
SEAFO	South East Atlantic Fisheries Organisation
SIODFA	Southern Indian Ocean Deepwater Fishers' Association
SIOFA	Southern Indian Ocean Fisheries Agreement
SPRFMO	South Pacific Regional Fisheries Management Organisation
SWG	Scientific Working Group
SWIOFC	South West Indian Ocean Fishery Commission
SWIOFP	South West Indian Ocean Fishery Project
TAC	total allowable catch
TDA	transboundary diagnostic analysis

UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNFSA	United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement)
UNGA	United Nations General Assembly
VME	vulnerable marine ecosystem
VMS	vessel monitoring system
WG	working group

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PART 1: REPORT OF THE EXPERT WORKSHOP

OVERVIEW OF THE MEETING AND ARRANGEMENTS FOR THE SESSION

1. The Workshop was held in Busan, Republic of Korea, from 10 to 12 May 2010 and was attended by 27 participants from a wide range of disciplines, experience and geographic areas (see Appendix 3). The meeting was opened by Mr II Jeong Jeong, Director of International Fishery Organization Division of the Ministry for Food, Agriculture, Forestry and Fisheries (MIFAFF). He welcomed participants and encouraged effective discussion.
2. Mr Nomura Ichiro, Assistant Director General of the Fisheries and Aquaculture Department of the Food and Agriculture Organization of the United Nations (FAO) welcomed participants and thanked the Republic of Korea for hosting the Workshop. He clarified that this meeting had been organized as a Workshop where participants will provide inputs according to their individual capacity in order to identify ways forward for the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas (FAO Deep-sea Guidelines).
3. Mr Gwang Soo Lim, Deputy Minister for the Fisheries Policy Office in the Republic of Korea gave an opening address. He thanked FAO for preparing the Workshop and emphasized the increasing importance of progress in the management of deep-sea high seas fisheries.
4. Ms Jessica Sanders, Department of Fisheries and Aquaculture, FAO, provided a brief background of the FAO Deep-sea Guidelines. She highlighted key aspects of implementation, including that most areas of the high seas are now covered by existing or developing regional fisheries management organizations or arrangements (RFMO/As). She recalled the previous activities (technical consultations, Workshops) that took place during the development of the FAO Deep-sea Guidelines, and described recent FAO activities in support of the implementation of those guidelines.
5. Ms Merete Tandstad, Department of Fisheries and Aquaculture, FAO, presented the objective and structure of the Workshop, with three main sessions on: (i) fisheries management in areas where there are RFMO/As; (ii) vulnerable marine ecosystems (VMEs) in areas where there are RFMO/As; and (iii) both topics in areas where there are no RFMO/As. Workshop participants were to discuss fisheries management issues and protection of VMEs in both areas where RFMOs are in place and where they do not yet exist, analyse challenges for the implementation of the FAO Deep-sea Guidelines and identify ways forward. Participants were given the opportunity to comment on the agenda, after which the agenda was adopted (Appendix 1).
6. Each session was introduced by a presentation of the corresponding background paper that had been prepared for the meeting. The three background papers can be found in Part 2 of this report. In addition, a list of issues for each session was prepared in order to stimulate discussion (see Appendix 2).

Session 1: Fisheries management in areas where a competent RFMO/A is in existence

7. Mr Jake Rice, Fisheries and Oceans Canada, was nominated the Chairperson of Session 1. He started the session by emphasizing that the discussion and session should focus specifically on deep-sea fisheries (DSFs). He requested participants to concentrate on developing conclusions on what has changed as a result of the FAO Deep-sea Guidelines and actions to take for moving the implementation process forward. In addition, he requested that participants examine impediments to progress.
8. Mr Ross Shotton introduced the background paper "Challenges to RFMOs in applying the FAO Deep-sea Guidelines on the management of deep-sea fisheries in the high seas" (see Part 2). The main fisheries management issues in relation to FAO Deep-sea Guidelines, when a RFMO is present, were presented.

Session 2: Identifying vulnerable marine ecosystems

9. Ms Ilona Stobutzki, Fisheries and Marine Sciences Programme, Bureau of Rural Sciences, Department of Agriculture, Fisheries and Forestry of Australia, was nominated the Chairperson of Session 2. Discussion centred around information requirements and necessary tools for improving identification of VMEs, as well as on the move-on rule.

10. Mr Jake Rice introduced the background paper “Review of progress on implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas – Experience of RFMO/As with identifying and protecting VMEs” (see Part 2). Measures instituted for the protection of VMEs in relation to the FAO Deep-sea Guidelines were presented.

Session 3: Fisheries management in areas where an RFMO/A is not in place

11. Mr Dean Swanson, National Marine Fisheries Service, National Oceanic and Atmospheric Administration (NMFS, NOAA), United States of America, was nominated Chairperson of Session 3. Although many of the issues that are relevant to both areas where RFMOs are in place and where they do not yet exist were discussed in previous sections, specific challenges in areas without functioning RFMO/As were discussed. Much of the discussion focused on ways to improve collaboration and use of existing tools, as well as improved assistance to developing countries.

12. Mr Dave Japp, CapFish, introduced the background paper “Workshop on the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas – Implementation of these guidelines in areas where no competent RFMO/A is in place” (see Part 2). The main fisheries management issues in relation to the FAO Deep-sea Guidelines, when an RFMO is not present, were presented.

SPECIAL EVENT

13. The host country, the Republic of Korea, organized a special event in which Mr II Jeong Jeong, MIFAFF, presented the current deep-sea fisheries and policies of the Republic of Korea and Mr Jae Wan Shin, a former captain of a deep-sea fishing vessel, gave a presentation on these fisheries and his experiences. A lively discussion session followed the presentations. A summary of both presentations follows.

Korean Bottom Fisheries in the High Seas: Status and Management Policy (Mr II Jeong Jeong, Director of International Fishery Organization, MIFAFF)

14. Mr II Jeong Jeong presented the current status of the deep-sea fisheries and relevant management policies from the viewpoint of the Republic of Korea. The number of vessels participating in these fisheries has oscillated between 32 and 22 since 2004, but in 2009 the Republic of Korea had a total of 22 vessels in these fisheries primarily fishing in the southeast and southwest Atlantic mainly targeting shortfin squid.

15. The management and conservation framework includes the United Nations General Assembly (UNGA) Resolutions 61/105 and 64/72, the FAO Deep-sea Guidelines, and domestic legislation (the Distant Water Fisheries Act and the Regulation on Bottom Fisheries in the High Seas). The primary actors in managing these fisheries are: the MIFAFF which administers the management of bottom fisheries through establishment of fishery management plans, authorizing fishing, etc.; the National Fisheries Research and Development Institute (NFRDI), which provides scientific and technical assistance for bottom fisheries; and the Korea Overseas Fisheries Association (KOFA), which manages fishing companies and collects data.

16. In the high seas in areas where RFMO/As are in place, Article 13 of the Distant Water Fisheries Act stipulates that fisheries that operate in the high seas under the management of RFMO/As shall abide by the measures taken by those RFMO/As. The purpose of this article is to incorporate measures taken by RFMO/As into the Republic of Korea's domestic regulation. The Government of the Republic of Korea sees to it that Korea's pelagic fisheries comply with this regulation.

17. In areas where no competent RFMO/As are in place, the MIFAFF issued the *Administrative Directive for Implementing International Regulation regarding Bottom Fishing in the High Seas* in December 2008 to regulate bottom fishing activities (published in April 2009, revised in August 2009). This regulation establishes a system for licensing, reporting encounters with VMEs, measures to prevent significant adverse impacts on VMEs, a vessel monitoring system (VMS) and, catch reporting and an observer system.

18. Remaining issues to be dealt with in these fisheries include the shortage of appropriately trained observers, the need for greater details on the FAO criteria for VMEs, and managing these fisheries in areas where a competent RFMO is not in place. In these areas cooperation among coastal and fishing states might be needed to complete impact assessments and other management activities.

19. The Republic of Korea will continue to elaborate the application of the relevant UNGA resolutions, the FAO Deep-sea Guidelines, and improve the institutional frameworks (e.g. between the relevant ministries) for the management of these fisheries, as well as continue efforts to establish an RFMO in the southwest Atlantic. Further efforts to improve the management of these fisheries will also include supporting an increase in the number of capable observers, development of protocols and manuals, improvements in fishing gear to reduce impact on the environment, and the application of the FAO Deep-sea Guidelines within the exclusive economic zone (EEZ) of the Republic of Korea.

Ploughing through waves onboard a fishing boat in the high seas: an old Korean fisherman speaks of the Korean bottom fishing industry on a learning curve (Mr Jae Wan Shin, Korean Overseas Fisheries Association)¹

20. Mr Jae Wan Shin presented a viewpoint on DSFs from the deep-sea bottom fishing industry of the Republic of Korea. High seas deep-sea fishing has changed drastically in the last decade. He noted that from 2006 to 2009, the UNGA resolutions and the FAO Deep-sea Guidelines were introduced into management practices. Domestic legislation of the Republic of Korea now incorporates regulations on bottom fishing and VMEs. The industry is now working to implement management measures for bottom fisheries, protection of VMEs and is agreeable to these measures when incorporated gradually. However, one of the largest changes has been in the overall fleet, capacity that has been greatly reduced, for a number of reasons.

21. Bottom fishing operators of the Republic of Korea are now required to report encounters of VMEs, collect as much information from the fishing operations as possible, and move off one nautical mile from the encounter site. These procedures are subject to continual change and improvement. There is now 100 percent observer coverage on vessels of the Republic of Korea operating in the southern Ocean and the northwest Pacific, and 20 percent observer coverage in the southwest Atlantic, which is likely to change as domestic legislation changes.

22. Bottom fishing operators are currently working on educating fishers onboard to increase awareness and improve understanding of new regulations and requirements. They also plan to gradually increase observer coverage in areas with limited coverage and participate more fully in cooperative arrangements with government institutions and research institutes. Experimental fishing is also being undertaken in some cases to determine if mid-water fishing can be done instead of bottom fishing.

¹ This presentation is based on the personal experience of a head of a fisheries company of Republic of Korea. The opinions expressed and arguments employed herein do not reflect the official views of the Government of Republic of Korea.

23. Many operators are collaborating on species identification through collection and reporting of uncommon species and photographic submissions to government institutions and the national research institute.

24. Encounters with VMEs are not in the best interest of operators. For example, in the Atlantic Ocean fishing hotspots generally do not coincide with VMEs. Areas with corals are often in deep and turbulent waters, and are not where target species occur. Corals also cause problems with gear retrieval. Areas that contain corals are often known and are intentionally avoided.

25. However, there are many problems for fishers trying to respect requirements and guidelines. These include: a lack of easy, readable guides and identification manuals in particular where there are no RFMOs; and lack of consideration on the part of policy-makers of operational and logistical issues (increasing costs of fuel, location and access to fishing areas, human capital, etc.). Easily losing access to fishing grounds is fatal to a small operator. In addition, the valuable experience of fishers is often ignored in the processes involved in adopting conservation measures.

26. Suggestions for addressing some of the above-mentioned issues were made, including the dedicated use of trained fishers as an alternate option to diversifying the observer supply (notwithstanding cultural and communication problems), and the recommendation that area closures be very specific and not be used as a blanket conservation measure.

27. In conclusion, the deep-sea fishing industry of the Republic of Korea has been made aware of the current international initiatives related to these fisheries and understands the need to “sail with the current”, but is still in the early stages of preparing. Full preparation will require time and resources to adapt to new requirements. The full cost of proposals must be weighed and viable alternative options considered. There is also a need to develop national mechanisms for support and expert input to develop tools such as guides, etc.

CONCLUSIONS AND RECOMMENDATIONS

General recommendations

28. There are no intrinsic differences between well-managed deep-sea fisheries (DSFs) in the high seas and other well managed fisheries, however, there are certain specific challenges in DSFs that are either more likely to be encountered or more difficult to overcome including the management of low-productivity species.²

29. Based on the specific challenges in DSFs, the meeting focused on the unique problems and potential solutions to making DSFs sustainable as well as to assist states and RFMO/As in their tasks to meet the provisions in the FAO Deep-sea Guidelines, UNGA Resolution 61/105 and other international commitments related to these fisheries.

30. Most states and RFMO/As have only recently started to address many of the provisions in the FAO Deep-sea Guidelines with a view to their implementation. In May 2010, RFMO/As were still at an early stage of the implementation process and thought it premature to evaluate the effectiveness of the measures already taken. Participants at the Workshop recommended an evaluation of the implementation of the FAO Deep-sea Guidelines at a later date and the convening of further Workshops at regular intervals to examine the challenges and solutions as done at this Workshop. However, participants also agreed that even at this stage of implementation, it was possible to identify some common challenges and some promising pathways to implementation.

² For elaboration on the specific challenges in DSFs, see FAO. 2007. *Report and documentation of the Expert Consultation on Deep-sea Fisheries in the High Seas*. Bangkok, Thailand, 21–23 November 2006. FAO Fisheries Report No.838, Rome, FAO. 203p.

31. Participants highlighted the main actions listed below and emphasized prioritizing these actions in order to address major issues in the implementation of the FAO deep-sea Guidelines. Priority actions to assist states, RFMO/As and the industry in the implementation of the FAO Deep-sea Guidelines are to:

- support the development of RFMO/As where they do not currently exist as well as encourage the signature and ratification of RFMO/As where they are in progress;
- support developing countries in the implementation of the FAO Deep-sea Guidelines, including making best practices and relevant information accessible;
- compile best practices and develop relevant guidance on impacts and risk assessment;
- compile, clarify the use of, and make available best practices on encounter protocols and related mitigation measures, in particular the move-on rule;
- facilitate opportunities for discussions among fishing nations operating in the same area, particularly where no RFMO/A is in place;
- develop guidance on the use of the VME criteria, including triggers for what degree of presence constitutes a “significant concentration”; and
- support and facilitate work on deep-sea high seas stock assessments to ensure sustainable fisheries.

Governance considerations and frameworks

32. General governance considerations were discussed that relate to both areas where RFMO/As are in place and where they are not. Many governance issues are ubiquitous and apply to all deep-sea high seas fisheries, but some are specific to areas where no RFMO/As is yet in existence (discussed in paragraphs 38 to 41).

33. The importance of multidisciplinary stakeholder participation in different aspects of the assessment and management process was emphasized by participants. However, RFMO/As do not always have the necessary mechanisms, forums or funding in place for such participation. In addition, the importance of coordination and communication between RFMO/As and other relevant bodies is mentioned in the FAO Deep-sea Guidelines (paragraph 29).

34. Some participants suggested that alternative arrangements for countries that do not have the resources to participate in or establish RFMO/As should be examined. In recent years a number of RFMO/As have placed value on the participation of non-contracting parties in RFMO/As in terms of contributions to meetings as well as reporting and exchange of data. Other types of arrangements, informal and formal, have been set up that allow for cooperation between flag states and interested parties for management of fisheries (e.g. for pollock fisheries in the Central Bering Sea).

35. States that are struggling with the management of deep-sea fisheries inside their EEZs could be further encouraged to consider the application of the FAO Deep-sea Guidelines to the management of DSFs within their EEZs, as mentioned in paragraph 10 of the FAO Deep-sea Guidelines.

36. Many participants noted the need for the development of a stepwise approach to the implementation of the FAO Deep-sea Guidelines. Owing to the resources needed to address many of the provisions prioritization and a series of steps to follow to address each of the components considered to be most important could assist those states that are not immediately able to address all the provisions with a view at implementing them.

37. Participants also noted the importance of providing assistance to states in the implementation of the FAO Deep-sea Guidelines before programmes are established to authorize vessels to fish in deep-sea high seas fisheries. States should have appropriate frameworks that allow for the implementation of the FAO Deep-sea Guidelines and other relevant regulations before authorizing vessels to take part in these fisheries.

Priority actions for improved implementation:

- (a) Establish working groups to develop a stepwise approach to implementation, as well as prioritize the main provisions in the FAO Deep-sea Guidelines for specific contexts.
- (b) Assistance and training in the implementation of the FAO Deep-sea Guidelines, including a general introduction to the guidelines specifically for countries, agencies or institutions that have not yet been involved in these fisheries.
- (c) Improve availability of information and collate examples for both states and RFMO/As on approaches to implementation, e.g. examples of legal frameworks.
- (d) Provide assistance for capacity building and networking for improved implementation of the FAO Deep-sea Guidelines.

Governance frameworks in the absence of an RFMO/A

38. The discussion on issues in areas where a competent RFMO/A is not in place commenced on the grounds that the requirements where there is a RFMO/A in place and where a competent RFMO/A is absent are the same. In areas where there is no competent RFMO/A the responsibility for implementation of the FAO Deep-sea Guidelines is borne by each flag state individually. Such situations are particularly demanding for all states concerned, independent of their respective capacity or funding capability. This highlights the need for cooperation between concerned flag states either directly or within the framework of a RFMO/A. Identifying VMEs, completing assessments (impact assessments, stock assessments and risk assessments), operating monitoring, control and surveillance (MCS), and reporting are all fairly difficult individual achievements for any one flag state when not working in collaboration with others fishing in a given region.

39. There are generally two types of situations in areas where there is not yet a RFMO in place: (i) areas where there is a RFMO/A in the process of being established (e.g. Indian Ocean); and (ii) areas where there is no RFMO/A (e.g. southwest Atlantic). In both situations, the main opportunity to improve the implementation of the FAO Deep-sea Guidelines is to be found in existing or potential coordination mechanisms among interested flag states and coastal states. FAO may be able to play a role in the establishment or facilitation of such coordination mechanisms. In addition, facilitation of data exchange and knowledge as well as discussions on potential management measures relating to these fisheries, in some cases, will require substantial technical assistance (possibly from FAO and others).

40. In some regions, industry has formed collaborative management arrangements in the absence of a competent RFMO/A, e.g. between operators in the southern Indian Ocean. However, in such situations the application or implementation of management measures established through informal collaboration between states and industry is limited as not all flag states are bound by such measures. The prompt establishment of RFMO/As in areas where they are not in place is important, as well as the development of interim measures previous to such establishment.

41. Participants noted that a few individual states and regional economic integration organizations have also developed directives (e.g. the European Union³ and the Republic of Korea⁴) relating to the implementation of UNGA Resolution 61/105 and the FAO Deep-sea Guidelines for their vessels operating in areas without competent RFMO/As.

Priority actions for improved implementation:

- (a) Encourage the establishment of RFMO/As where there are none and the signature and ratification of the relevant constitutive agreement where such agreements have already been negotiated and adopted (paragraph 28 of the FAO Deep-sea Guidelines).

³ See Web page eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:201:0008:0013:en:pdf

⁴ Not currently available in English.

- (b) Develop informal arrangements or networks for collaboration on the implementation of the FAO Deep-sea Guidelines among interested parties and stakeholders.

Support for developing countries

42. Knowledge on DSFs and associated ecosystems is often difficult to access and, in some cases is non-existent, which further complicates involvement in the sustainable management of these fisheries for many developing countries, which often have limited experience with these fisheries. In some of them, a good relationship between the competent authority and the deep-sea high seas fishing industry has been the main path toward effective implementation of the FAO Deep-sea Guidelines taking into account, among others, the capacity of the DSF industry in providing data and knowledge with respect to these fisheries.

43. Many developing countries could benefit from the direct assistance of FAO in terms of training, capacity building and the development of networks of scientists, industry, and others involved in these fisheries. In addition, coping with MCS and developing appropriate legal frameworks for the management of DSFs in areas beyond national jurisdiction are areas in which developing countries need particular assistance. Assistance from FAO, *inter alia*, through the development of model legislation and organization of regional Workshops for awareness building was requested.

Priority actions for improved implementation:

- (a) Provide assistance in the development of appropriate legal frameworks necessary for the implementation of the FAO Deep-sea Guidelines, including a review of current legal frameworks that allow for management of deep-sea high seas fisheries and improved access to examples and additional information.
- (b) Review and prioritize objectives of the FAO Deep-sea Guidelines and for deep-sea high seas fisheries issues (as recommended in section 2).
- (c) Provide capacity building in developing countries, including support for training to increase deep-sea taxonomic knowledge.
- (d) Increase the participation of developing countries in various FAO meetings, international discussions and scientific meetings on DSFs on the high seas.

Management issues

44. Participants noted that joint or coordinated working groups or simply joint meetings could be established among RFMO/As and RFMO/A scientists to share experience and information on issues such as identification of VMEs, biodiversity concerns in management and other issues. This could serve to increase capacity in RFMO/As working on VME issues in areas with fewer resources. Efforts should be made to reduce costs by holding joint meetings on common topics rather than recommending activities that require a substantial amount of funding such as increasing the current number of meetings or expanding participation in meetings which is taxing on the limited resources of both RFMO/As and states.

45. Experience in the implementation of the VME components, in particular, of the FAO Deep-sea Guidelines should be compiled and shared among RFMO/As and their scientists. One participant noted that an informal network among RFMO/As secretariats has already been established. Enhanced coordination and collaboration and sharing of technical expertise among the RFMO/As would ensure more effective use of resources in organizations that already have limited funding and increasing responsibilities.

46. The need for training of skippers, operators and crew to ensure implementation of the FAO Deep-sea Guidelines was discussed. Participants noted that the issue to be discussed is in relation to the provisions of the FAO Deep-sea Guidelines and not in the context of maritime training in general.

47. Current practice in most RFMO/As is to rely on the flag states to ensure that the skipper and crew are informed of current regulations and management measures. However, the option of providing training for skippers, vessel operators or crew to raise awareness on the FAO Deep-sea Guidelines was considered a valid initiative.

Priority actions for improved implementation:

- (a) Develop a mechanism for sharing of experiences and best practices among RFMO/As, as well as creation of a network for scientists and scientific committees from these RFMO/As.
- (b) Compile RFMO/A current practices and experiences. A network could be developed for highlighting information on new management measures or other points of interest for interested parties and stakeholders.
- (c) Build awareness for skippers, operators and crew on the FAO Deep-sea Guidelines.

Data collection and reporting

48. The Chairperson noted that a list of types of data required to successfully manage bottom fisheries in the high sea is outlined in FAO Fisheries Report 860⁵ (page 6), but that this is not a comprehensive list, and it is important to include other data types such as those necessary for bioeconomic studies.

49. Industry is one of the main potential data providers. However, if there is a risk that commercial confidentiality is compromised it is a disincentive for the industry to collaborate. The major disincentive to providing data on fishing locations and catches is its possible commercial use by competitors. This is even more of a concern when the fishery providing data is operating consistent with the FAO Deep-sea Guidelines and the information might be used by fisheries less likely to operate responsibly. One of the solutions to this may be the use of secure entitlements in the fishery, where the governance system allows entitlements to be awarded and implemented successfully.

50. Both scientists, who expect independent validation of data obtained from commercial fishers, and members of the fishing industry, who are often reluctant to share data because of confidentiality issues, have much to gain from the establishment of trust in relation to data sharing and use.

51. Scientific data are also sometimes collected within areas where a competent RFMO is in place, but the data collected are not always made available to RFMO/As. Participants recommended that states and institutions should be encouraged to present all relevant available scientific information to the RFMO/As.

52. Not all management actions require the same scale of data and the data requirements necessary to achieve different objectives should be better specified. For example, the following four categories of assessments require different types of data and at least some will require very fine scale data:

- status and trends of target stocks;
- status and trends of bycatch;
- performance of the fleet (economically and socially); and
- impact of fishing on ecosystem.

Priority actions for improved implementation:

- (a) Provide guidance and models for the development of data exchange protocols specifying conditions under which data (including confidential data) are made available and shared.

⁵ FAO. 2008. *Report of the Workshop on Data and Knowledge in Deep-sea Fisheries in the High Seas*. Rome, 5–7 November 2007. FAO Fisheries Report No.860. Rome, FAO. 15p.

- (b) Develop guidance for appropriate data collection protocols between industry, scientists and management.
- (c) Establish procedures to build confidence between scientists and industry for improved collaboration e.g. legal protocols, regular exchange mechanisms, etc.
- (d) Establish positive incentives to reward those that are providing data.
- (e) Encourage states and institutions to share data and information collected from surveys within RFMO/A areas.
- (f) Encourage RFMO/As and flag states to submit information on their deep-sea high seas fisheries to FAO and collaborate on future FAO efforts to analyse and these fisheries through, *inter alia*, the FAO global inventory of fish stocks and fisheries.

Development of support material

53. Participants highlighted the importance of the development of generic material such as example or model forms, training manuals, guidance on data collection, and databases because such material is important for effective use and consolidation of information for a given fishery and would facilitate collaboration between states.

54. Data collection procedures and protocols have been established by many RFMO/As and, in some cases, RFMO/As communicate among themselves and their scientific advisory bodies on these topics.

55. FAO has developed a programme that will provide, when fully funded, vulnerable species identification guides for use onboard vessels, as well as training for the use of the guides. FAO and all regional and national organizations that are working on field guides for the identification of high seas species should make them available and promote training of observers.

Priority actions for improved implementation:

- (a) Forms, manuals, best practices that are already available on websites should be collated and made easily accessible from a single portal.
- (b) Generic material such as examples or model forms, training manuals, and databases should be developed and/or made available by FAO.

Historical data

56. The recovery and transcription of historical data are important for fisheries management in DSFs although in certain cases costs may exceed benefits. Participants noted that the collection of historical information is particularly important in areas where there are no RFMO/A as there is often a general lack of access to data. Historical data could be collected and compiled by FAO in collaboration with flag states. These data could be used to develop baseline information for these fisheries and to assist in the compilation of information on VMEs and the production of maps.

Priority actions for improved implementation:

- (a) Collect and compile historical data, particularly in data-poor fisheries and areas.

Data collection in areas without competent RFMO/As

57. Collaboration and facilitation of data sharing will enable the undertaking or improve the application of many of the provisions in the FAO Deep-sea Guidelines, including mapping of the area, impact assessments, and stock assessments in areas without competent RFMO/As as combined information from all states fishing in the area is important for an a scientifically sound basic description of catches and major potential ecosystem impacts. For example, robust stock assessments are particularly challenging in areas without RFMO/As when mechanisms for data sharing are not in place. In addition, VME assessments based only on the data from individual states present a