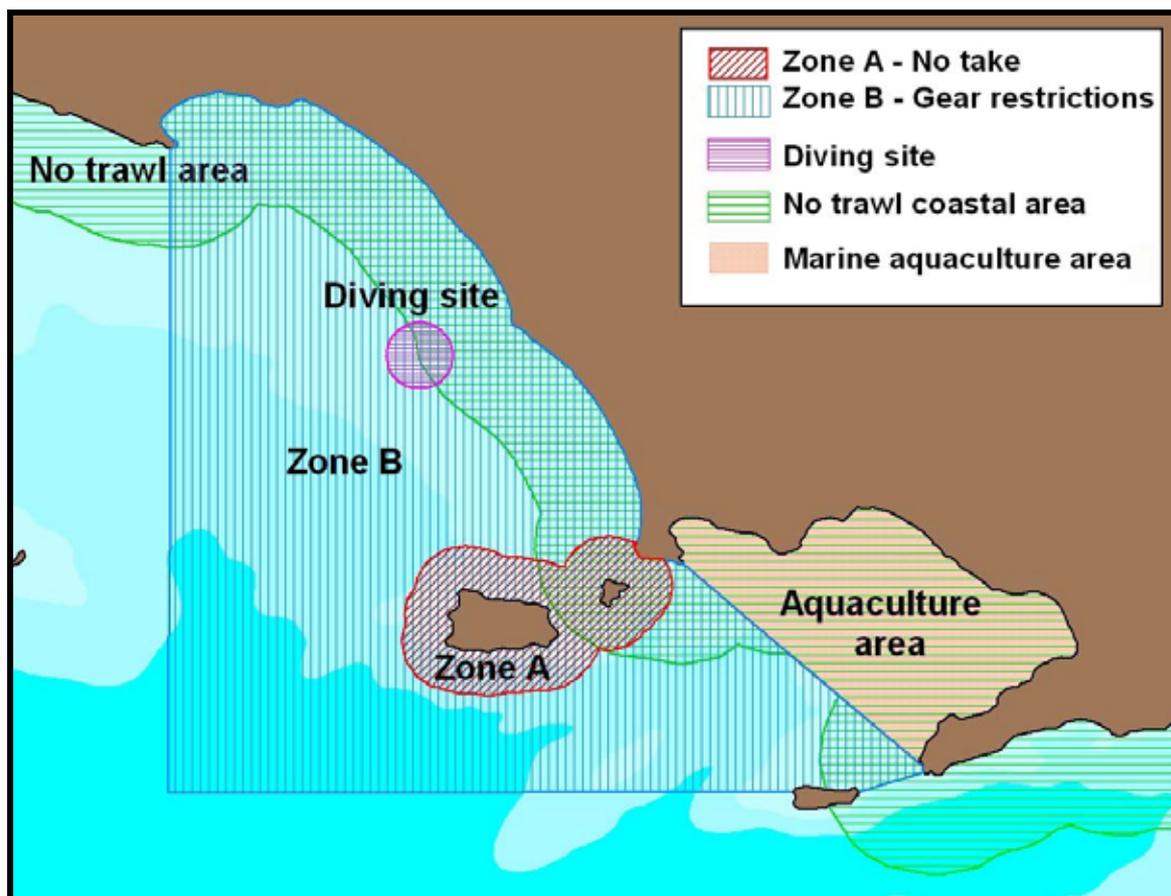


Report and documentation of the

EXPERT WORKSHOP ON MARINE PROTECTED AREAS AND FISHERIES MANAGEMENT: REVIEW OF ISSUES AND CONSIDERATIONS

Rome, 12-14 June 2006



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PREPARATION OF THIS DOCUMENT

In 2001, marine ecosystems and marine capture fisheries figured prominently in the World Summit on Sustainable Development (WSSD). In response to WSSD, FAO, with funding from the Government of Japan, initiated a project entitled “Promotion of sustainable fisheries: support for the Plan of Implementation of the World Summit on Sustainable Development” (referred to as the “FAO WSSD Project”). It focuses on specific activities that assist FAO Members with addressing the WSSD recommendations, in order to work towards achieving sustainable fisheries. Phase I of that project consisted of three distinct tasks aimed at providing information and assessments on (a) subsidies that contribute to overcapacity and to illegal, unreported and unregulated (IUU) fishing, (b) implementation of the International Plan of Action (IPOA) for Management of Fishing Capacity (IPOA–Capacity), and (c) implementation of the IPOA on Illegal, Unreported and Unregulated Fishing (IPOA–IUU).

Phase II of the project started in early 2006. In addition to providing some support to the implementation of the IPOA–Capacity and IPOA–IUU, two new tasks have been initiated under this project with the aim of providing information, assessments and guidance on deep-sea fisheries and marine protected areas (MPAs) in relation to fisheries management.

The twenty-sixth session of the FAO Committee on Fisheries (COFI) recommended that FAO develop technical guidelines on the design, implementation and testing of MPAs, to help assist its Members in achieving the WSSD goal of establishing representative networks of MPAs by 2012. Under the FAO WSSD Project an expert Workshop on MPAs and Fisheries Management was convened as an initial activity to review and characterize MPAs in a fisheries management context.

This document contains the report of the workshop and the background papers commissioned for the meeting. The report, and in particular the “Key Points” adopted by the workshop, will serve as basis for further work on developing technical guidelines for the design, implementation and review of MPAs.

The co-conveners of the workshop were Kevern Cochrane and Dominique Gréboval. Michael Sissenwine served as a consultant, Jessica Sanders (FAO Consultant) and Anthony Charles (FAO visiting expert) provided extensive input and assistance, and Louise-Anne Le Bailly provided secretarial support. Together they prepared this meeting report that provides a record of activities at the meeting and outcomes of the meeting in the form a statement agreed to by the invited experts. The latter is contained in the “Key Points” section of the document.

Distribution:

Participants in the workshop
FAO Fisheries and Aquaculture Department
FAO Fisheries Officers, Regional and Subregional Offices

FAO.

Report and documentation of the Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations. Rome, 12–14 June 2006.

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ABSTRACT

The Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations was held in Rome from 12 to 14 June 2006. The workshop is a response to the FAO Committee on Fisheries' call for technical guidelines for marine protected areas (MPAs) to assist Members to establish representative networks of MPAs by 2012, as agreed at the World Summit on Sustainable Development. During the workshop, invited experts and FAO staff discussed characteristics of marine protected areas (MPAs) relevant to fisheries management. Their discussions were informed and stimulated by six background papers on a wide range of topics including concepts and definitions, case studies of MPAs, biological factors, economic and social considerations, governance, legal aspects, and the interface between MPAs and fisheries management. The workshop also considered a draft framework outline for technical guidelines on MPAs and fisheries management. Participants agreed upon "Key Points" on definitions, terminology and concepts; design, implementation and monitoring; and guidelines.

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PART 1: REPORT OF THE EXPERT WORKSHOP ON MARINE PROTECTED AREAS AND FISHERIES MANAGEMENT: REVIEW OF ISSUES AND CONSIDERATIONS

1. BACKGROUND

The “Expert workshop on marine protected Areas and Fisheries Management: Review of Issues and Considerations” was held in Rome, Italy, from 12 to 14 June 2006.

The Workshop was organized as a component of a project entitled “Promotion of sustainable fisheries: support for the Plan of Implementation of the World Summit on Sustainable Development,” funded by the Government of Japan. The project is focused on specific undertakings based on activities recommended by the World Summit on Sustainable Development (WSSD), in order to work towards achieving sustainable fisheries. It responds to the FAO Committee on Fisheries’ (COFI) call for technical guidelines on marine protected areas (MPAs) to assist Members to achieve the WSSD goal of establishing a representative network of MPAs by 2012.

Experts from a wide variety of disciplines and experiences were brought together to review and characterize MPAs as a fishery management tool which served as the main purpose of the Workshop.

The scope of the Workshop was broad in terms of the range of fisheries, considering the role of MPAs for fisheries from small scale to industrial, developing country to developed country, domestic to international, and near-shore to high seas.

2. OPENING SESSION

The Workshop was attended by 16 invited experts from a variety of disciplines, backgrounds, and geographic regions. In addition, ten FAO staff from both the Fisheries and Legal Department attended portions of the Workshop. The participant list is given in Appendix B.

Co-conveners Kevern Cochrane and Dominique Gréboval of the FAO Fisheries Department called the Workshop to order. Background on the Workshop was provided and the decisions related to marine protected areas (MPAs) of the twenty-sixth Session of the FAO Committee on Fisheries’ (COFI, March 2005) were brought to the attention of Workshop participants. COFI had recommended that FAO prepare technical guidelines on MPAs and fisheries. The co-conveners noted that the Workshop was an initial step in a process to prepare technical guidelines.

Assistant Director General Ichiro Nomura, of the FAO Fisheries and Aquaculture Department, addressed the Workshop. He welcomed participants and thanked them for their willingness to assist FAO. He stressed the mission of the Department “to facilitate and secure the long-term sustainable development and utilization of the world’s fisheries and aquaculture”. He noted the potential importance of MPAs as a fishery management tool to achieve the goal of long-term sustainable development and utilization, but he also noted that there were limitations that needed to be considered. He recalled that COFI has stated that “the use of MPAs as a fisheries management tool should be scientifically-based and backed by effective monitoring and enforcement and an appropriate legal framework”. Assistant Director General Nomura’s complete address is given in Appendix C.

Workshop participants selected Ana Parma as chair, and Magnus Ngoile, Marea Hatziolos and Patrick Christie as co-chairs.

The preliminary Workshop agenda was introduced and approved by Workshop participants. It is given in Appendix A.

3. REVIEW OF BACKGROUND PAPERS

Six background papers were prepared for the Workshop. They are included in this report in Part II. The papers were reviewed by FAO staff and a consultant, and were revised after the Workshop by their respective authors in response to reviewers' comments and taking into account comments made by Workshop participants. The authors are solely responsible for the content and accuracy of their paper and the views expressed in them do not necessarily reflect the views of FAO in any way.

The background papers were designed to cover a range of topics related to MPAs and fisheries management from: concepts related to MPAs and case studies; to biology; to social and economic considerations; to governance; to legal issues; to the interface between MPAs and fisheries management. The background papers are summarised briefly in the paragraphs that follow.

3.1 Background, concept and definitions

The background paper titled "Experiences in the use of MPAs with fisheries management objectives: a review of case studies" by K. Martin, M.A. Samoilys, A.K. Hurd, I. Meliane and C.G. Lundin was considered by the Workshop. The paper highlighted the IUCN definition and its system of six categories of MPAs. It gave seven cases studies of MPAs which identified key aspects of MPA design, such as MPA designation and stakeholder processes, legal and institutional frameworks, and management aspects. The paper concluded that a thorough case-to-case assessment and further empirical evidence is needed to define MPA benefits and limitations.

3.2 Biological and ecological considerations

"Biological and ecological considerations in the design, implementation and success of MPAs" by L.W. Botsford, F. Micheli and A. Parma reviewed empirical evidence on: (a) changes in the density, biomass, diversity and size of organisms within no take reserves; (b) the contribution of larvae produced within no take reserves to recruitment outside the reserves; (c) catch per unit effort of mobile species near reserves; and (d) aspects of MPA design, such as size and spacing. It also reviewed modelling studies on the size and spacing of MPAs relative to sustainability of populations.

3.3 Social and economic considerations

"Marine protected areas: the social dimension" by R.S. Pomeroy, M.B. Mascia and R.B. Pollnac reminds us that MPAs "as management tools, are the product of social institutions" and "are a human creation whose purpose is to manage behaviour of people in their use of coastal and marine resources." The paper emphasizes social factors as a major determinant of success or failure of MPAs. Since fishers, fishing households, and fishing communities are not homogeneous, the authors point out the importance of recognizing the unique context of each MPA. This uniqueness can also make it difficult to transfer lessons from one situation to another. The potential social benefits and costs, in both the short and long term, of MPAs are discussed. In addition, the authors identify crucial aspects of and variations in the distributional benefits and costs of MPAs (i.e. who are the winners and losers?).

3.4 Governance

"Best practices in governance and enforcement of marine protected areas: an overview" by P. Christie and A.T. White focuses on decades of experience from the Philippines where the standard planning process generally has five main phases including: (1) issue identification and baseline assessment; (2) plan preparation; (3) implementation and enforcement; (4) monitoring and evaluation; and (5) education. In this context, MPAs are designed to fulfil both artisanal fishery management and biodiversity conservation goals. The paper draws attention to embedding of MPAs within a larger

planning framework such as integrated coastal management (ICM) or ecosystem-based management (EBM). An MPA rating system from an international monitoring guidebook, and that is being used by nationally declared MPAs in the Philippines, is introduced as a management tool.

3.5 Legal issues

“The legal framework for MPAs and successes and failures in their incorporation into national legislation” by T.R. Young addresses terminology and legal processes by which protected areas and legal frameworks are adopted. It describes the overall international framework of binding and non-binding laws and instruments relevant to MPAs, experiences developing legislation, legal opinions that have been used or proposed for addressing MPA development, and lessons applicable to MPA guidelines. As for other aspects of MPAs, the paper notes that legal issues and the development of legislation is situation dependent.

3.6 General issues and considerations

“Issues arising on the interface of MPAs and fisheries management” by A.T. Charles and J.S. Sanders emphasizes the various steps in MPA decision making in three major groupings: (1) initial aspects and policy/legal framework; (2) design stage; and (3) implementation, management, monitoring and assessment. It highlights the commonalities between discussions of marine protected areas and of fisheries management, in terms of their mutual use of spatial measures and ecosystem approaches. The paper draws on the other Background Papers prepared for the Workshop, as well as a range of additional literature, to produce a fairly comprehensive compilation of issues and considerations relating to the development and implementation of MPAs within a fisheries management context. In addition, a focus on the first of stage of the decision making process – the preliminary scoping steps of the “early decision-making stage” – explores the key decision-making elements involved in this ‘early stage’.

Each paper was discussed by the workshop after it had been presented and key points arising from the papers and the discussion were considered in relation to the guidelines and, in some cases, included in the list of key points provided at the end of this report.

4. DISCUSSION OF INITIAL DRAFT FRAMEWORK FOR GUIDELINES

An initial draft of a framework for guidelines for MPAs and fisheries management was introduced by the FAO staff. The draft framework is given in Appendix D.

The draft framework for guidelines on MPAs and fisheries management calls for guidelines that give usual **background information** on MPAs, including:

- policies such as the WSSD goal for a representative network of MPAs by 2012;
- characteristics of MPAs including definitions and the potential consequence MPAs; and
- the fisheries management process and the potential role of MPAs as a fisheries management tool.

The draft framework emphasizes the **design stage** for MPAs including factors that need to be considered in the design of MPAs such as:

- consideration of legal regimes and governance, and management strategies;
- biological, ecological, and economic aspects of MPA design;
- institutional issues and options; and

the process to be followed in designing MPAs, including:

- objective setting and issue identification; and
- preparation and adoption of MPA plans.

Sections of the draft framework on **implementation and monitoring** of MPAs address:

- formalization of the MPA through legal processes,
- compliance and enforcement issues,
- revenue generation, conflict resolution and capacity building involving stakeholders,
- identification of indicators of performance,
- strategies for data collections, periodic review, and adaptation.

The draft framework was extensively discussed and a number of important suggestions were made for improving it in subsequent development of the guidelines. In addition to those suggestions, the workshop arrived at a number of conclusions and recommendations that are listed in the form of Key Points in the following section of this report.

5. CONCLUSIONS AND RECOMMENDATIONS – KEY POINTS

5.1 Setting the stage

1. The workshop was pleased that COFI had responded to the WSSD policy commitment to implement a network of MPAs by 2012 by asking the FAO Fisheries Department to prepare guidelines on the role of MPAs in fisheries management.
2. WSSD made a policy commitment to MPAs, but not explicitly as a fishery management tool. However, given the widespread acceptance of the concept of an ecosystem approach, which recognizes the importance of habitat and biodiversity, robustness to uncertainty, and the human dimension of fisheries, it should be expected that fisheries management will increasingly apply a diverse set of management tools, including MPAs. Furthermore, there are many cases where MPAs have not performed well relative to objectives, thus highlighting the need to improve the design and implementation of MPAs. FAO guidelines should facilitate such improvements.
3. The points that follow emerged as important during the workshop. However, they are not comprehensive or a complete list, nor do they necessarily represent the views of FAO. The workshop agreed on the sense of the points below, but not necessarily on the exact wording.

5.2 Definitions, terminology, concepts

4. Several definitions of MPAs have been prepared by various national and international governmental and non-governmental organizations, and by individual authors. While there are differences in the definitions, there are consistent similarities that are more important. The workshop felt it was better for FAO to build on these consistencies to advance understanding of what is meant by an MPA, rather than attempting to advance its own definition.
5. Fisheries management applies to fishery management units with a geographic specification, which to the extent practicable, correspond to the geographic range of the fishery resources that are the subject of management. At a minimum, an MPA should include explicit objectives concerning the conservation and sustainability of the fishery resources. The workshop agreed that MPAs as a fishery management tool:
 - are intended to contribute to achieving conservation and sustainability objectives of fisheries management, while contributing to biodiversity and habitat conservation (with intended or unintended social and economic consequences);

- are temporally and geographically specified in three dimensions for a portion of the geographic range of the fishery management unit;
 - would afford fishery resources a higher degree of protection within the geographic boundaries of the MPA than the resource is afforded elsewhere within the geographic range of the fishery management unit;
 - are established through legally binding mechanisms and/or other effective means;
 - are usually expected to have resource conservation and sustainability benefits, other ecological benefits, and/or social benefits, beyond the boundaries of the MPA.
6. WSSD refers to networks of MPAs. A network of MPAs may refer to:
- at a minimum, more than one MPA,
 - more usefully, a collection of MPAs either as representative networks and/or with some degree of connectivity which could be ecological or social, including sharing of governance resources;
 - ideally, a synergistic system of MPAs with the “whole greater than the sum of the parts” relative to objectives.
7. In the context of MPAs as a fishery management tool, networks should be employed, rather than a single MPA, to the extent that they are advantageous relative to conservation and sustainability objectives, biodiversity and habitat benefits, and social impacts. Networks may serve to:
- account for dispersal of early life history stages of fishery resources or movement of later life stages;
 - conserve and sustain multiple species of fishery resources which typically have different distributions and patterns of dispersal;
 - afford protection to diverse types of habitat and/or ecosystem types;
 - affect distributional aspects of social benefits and costs;
 - enhance effectiveness of governance; and
 - improve learning through sharing experiences.
8. The utility of an MPA relative to achieving objectives depends to some degree on the effectiveness of governance.
9. MPAs and networks of MPAs may be initiated from the bottom up (e.g. by individuals and local communities seeking sanction from higher scales of governance) or from the top down (e.g. high level policies implemented locally). Effective governance in the long term is likely to depend on sharing responsibility over a hierarchy of scales, with responsibility delegated to the lowest (i.e. most local) scale that has the ability to achieve objectives.
10. Ideally, governance structures and processes for MPAs should incorporate relevant multi-sectoral interests (e.g. mining, transportation, tourism, fisheries) as a means to facilitate improved implementation and compliance. However, a pragmatic approach is required and it may be useful for MPAs to start within a single sector, such as fisheries, but to be allowed to evolve as participation and buy-in is expanded to other sectors with time. Nevertheless, it needs to be recognized that there is a trade-off between the extent and impact of externalities on the ability to govern and the extent of participation by multiple sectors.
11. Integrated Coastal Management (ICM), an Ecosystem Approach (EA), the Precautionary Approach, and MPAs all interface with fisheries management and each other.

12. ICM applies broadly to all use sectors, including fishing, such that geographic areas may be zoned to either allow or exclude specific uses. MPAs are a specialized form of geographic zoning, which can be nested within ICM.
13. EA is a process for design and implementation of management that broadens stakeholder involvement, considers direct and indirect impacts on an ecosystem, and takes account of uncertainty. It is applicable to ICM and fisheries management (EAF). The precautionary approach is a way of accounting for uncertainty and managing risk. FAO has prepared useful guidelines on the precautionary approach and the ecosystem approach for fisheries.
14. MPAs may be a valuable element of a precautionary approach, for example, when:
 - MPAs protect components of ecosystems that are not protected by other forms of fisheries management;
 - they can be more effectively enforced than alternative forms of fisheries management;
 - they are more robust in the face of social and ecological change, and resource assessment uncertainty.

However, MPAs do not necessarily provide these precautionary benefits. Applying a diversity of fishery management tools, including MPAs, is likely to be more precautionary than overly depending on any one tool.

5.3 Design, implementation and monitoring of MPAs for fishery management

15. The design of MPAs as a fishery management tool should be integrated within the overall design process for fishery management. It usually involves a preliminary or scoping stage, and a secondary or analysis stage.
16. The scoping stage of design is the stage when the viability of MPAs as a tool for managing a specific fishery is considered. It takes account of:
 - availability of spatial and temporal information about fishery resources, ecosystems, fishing activity, community dependencies and other social considerations, which might be used to design MPAs;
 - objectives of fisheries management (what are the problems and opportunities), and the amenability of MPAs for addressing them;
 - applicability of governance options to MPAs;
 - stakeholder opinions about MPAs relative to other management tools;
 - feasibility of implementing MPAs relative to other fishery management tools, for example taking account of enforceability;
 - entry points such as the current existence of MPAs that might serve as a building block.

The product of the scoping stage includes a set of viable fishery management tools to be more rigorously analyzed in the next stage of design.

17. The analysis stage of design compares the performance of viable fishery management tools (including MPAs, assuming they emerged from the scoping stage as viable) relative to objectives and costs of implementation. Both quantitative models and analyses and objective qualitative evaluations may be used.
18. Within the broader framework for design of fisheries management, MPA design should take account of ecological and social connectivity between MPAs, costs and benefits including distributional effects, and robustness to uncertainty

19. Fishery management tools may produce benefits that go beyond the scope of explicit benefits of fishery management. For example, MPAs are likely to have habitat and biodiversity benefits that may not be explicitly included as fishery management objectives. Nevertheless, such benefits should be considered in the fishery management design process.
20. There is potentially a role for MPAs in fisheries management from near shore areas to the high seas. There are important differences in settings, such as governance regimes, the state of natural science and social science knowledge, nature of fishery resource and ecological threats, degree of user conflicts, and implementation costs. These differences will be important in both the scoping and analysis stages of fishery management design.
21. Regional Fisheries Management Organizations (RFMOs) have a prominent role in international fisheries management, particularly for straddling and highly migratory fish stocks as mandated by the UN Fish Stocks Agreement. RFMOs should consider MPAs as a fishery management tool to the extent they are an effective way to achieve conservation and sustainability objectives, and fulfill mandates and policy agreements.
22. FAO can contribute to improved management of fisheries in areas beyond national jurisdiction by providing technical guidance on effective means of management, including the potential role of MPAs. Greater collaboration between FAO and CBD would help to integrate initiatives to achieve conservation of biodiversity with efforts to ensure sustainable use of fishery resources in these areas.
23. The requirements and structures for effective governance of MPAs, within a broader framework of fisheries governance, will differ according to the scale and international scope of the MPA. Governance needs to be appropriate to the scale of the MPA or MPA network and of the management unit in which it is embedded. Some general principles include the following.
 - a) MPAs should not be seen in isolation but as part of larger governance systems.
 - b) Governance and management strategies should explicitly address uncertainty, robustness and precaution.
 - c) Small-scale, coastal MPAs should give due attention to community rights and participation. The policy framework needs to enable this.
 - d) Coastal MPAs will frequently need to be embedded not only in a broader fisheries management system but also within an integrated coastal zone management system.
 - e) MPAs in inshore, offshore and areas beyond national jurisdiction will frequently include a variety of stakeholders within and outside the fisheries sector and the governance and management structures and processes must accommodate this.
 - f) As the number of stakeholders and sectoral groups involved in MPA management increases, the need for strong and formal overarching arrangements to ensure coordination across users will similarly increase.
 - g) Zoning systems and management planning systems can be useful for managing multiple use of an area. Zoning and management planning systems should be supported by primary legislation which provides guidance to the process, and devolves actual zoning and management planning decisions to the appropriate level. An important aspect of zoning should be to avoid prohibitions except where useful in order to achieve defined objectives, to improve compliance and reduce enforcement requirements.
 - h) Large-scale MPAs may be beneficial in order to encompass macro-scale features that serve critical functions in populations or ecosystems. Zoning will often be important in such cases and consideration should also be given to the relative advantages and disadvantages of a single large-scale MPA compared to a network of smaller MPAs.

- i) The potential contribution of MPAs in areas beyond national jurisdiction is under intense discussion at present and there are differences of opinion on the adequacy of the international legal regime governing areas beyond national jurisdiction. Nevertheless, the guidelines to be developed by FAO should provide technical guidance on the potential advantages and disadvantages of MPAs as tools for fisheries management in relation to other tools in these areas. Such information could be useful, amongst others, to RFMOs and to States considering entering bi-lateral or multi-lateral arrangements to improve fisheries management and conservation in areas beyond national jurisdiction.
 - j) MPAs on the high seas could address deep sea resources and communities, for example on sea mounts and oceanic ridges, pelagic resources and communities, or both. High degrees of endemism in deep sea communities and the vulnerability of some deep sea stocks and species require particular consideration for fisheries and conservation of biodiversity. Enforcement and IUU fishing are likely to be problematic. Flag States have an important role to play in ensuring responsible and sustainable use of resources in areas beyond national jurisdiction and could contribute by a range of methods, including through effort management of their national fleet, gear regulations and where applicable, compliance with MPAs and other spatial controls.
24. The design of MPAs would benefit from more support for effectively designed and conducted studies of MPAs, emphasizing the diversity of situations in which MPAs have been applied, design and implementation processes, monitoring and performance, and ultimately, lessons learned. To make this possible, systematic databases on all aspects of MPAs, such as inventories of MPAs, their legal frameworks and governance regimes, objectives, enforcement and monitoring, etc., would be valuable.
 25. Like most fishery management tools, the effectiveness of MPAs depends on compliance, which will often require effective enforcement with large enough penalties to serve as a deterrent. Joint enforcement arrangements that take advantage of enforcement assets from multiple jurisdictions and sectors should be developed. There are many opportunities to enhance compliance through application of modern technologies, such as vessel monitoring systems (VMS), although for small-scale fisheries this may pose a challenge.
 26. Many factors can lead to “voluntary” compliance and self-enforcement, such as involvement of stakeholders, education, and the recognition and/or allocation of rights.
 27. Enforcement of MPAs should build on the IPOA for IUU and the FAO Compliance Agreement, among others.
 28. One important aspect of sustainability of MPAs in fisheries management is a sustainable source of funding after the initial flux of external or donor funds runs out. Accordingly, costs should be kept as low as possible. Several potential sustainable sources of funding should be considered, such as:
 - establishing a trust fund from the initial flux of external or donor funds;
 - funds from enforcement penalties;
 - fees paid by people who benefit from the MPA, such as fishers, tourists, hotel owners, etc.
 29. Where possible, mechanisms and policies should be designed so that funds generated by an MPA are available to be used locally to sustain the MPA. If the funds are absorbed by a central government, funding to sustain the MPA is likely to be inadequate and there will be less local support for generating revenues.
 30. It was suggested that there can be discrepancies between the goals of international governance and goals at the national scale. This could lead, for example, to countries responding to initiatives from

donor agencies and NGOs to implement MPAs in the short-term but lacking the national and local commitment to sustain them in the longer term. It is essential for more effective and sustained governance that there is greater coherence between international and national goals and processes. Principles that could contribute to improving the coherence include adherence to transparency and participatory decision-making.

31. While the charge of the workshop was to consider the role of MPAs in fishery management, in reality, MPAs almost always explicitly and implicitly serve multiple objectives, and interest in MPAs is cross sectoral, including commercial and recreational fisheries, tourism, other industries, and environmentalists. The workshop suggested that FAO should consider initiatives to close gaps between these interest groups and improve cooperation.
32. One advantage of harmonizing the role of MPAs as a fisheries management tool and as a tool that serves broader conservation objectives, is the possibility of broadening the funding for MPAs, such as joint funding from fisheries and conservation agencies.
33. Conflicts associated with MPAs are frequent, as with other forms of fisheries management. MPAs should be designed and managed to minimize conflicts before they occur, but mechanisms for conflict resolution should also be designed into the governance of MPAs. Enhancing capacity to do so in developing countries may be particularly important.
34. While there are many examples of developing countries “leading the way” in the application of MPAs to fisheries, in general most developing countries require assistance in building capacity for research, governance, monitoring, and enforcement. The capacity needs to be sustained beyond the initial period of involvement by external donors.
35. Capacity building, community involvement, and ocean literacy throughout society are related, and may be necessary for MPAs to be initially accepted, and effectively sustained.
36. There should be a sustained commitment to a balanced monitoring program so that performance of the MPA can be evaluated relative to objectives, and more generally, to support research. A monitoring program needs to be designed to account for connectivity between the area inside and outside MPA boundaries. Monitoring and performance evaluation needs to address fishery resources and ecosystems, fishing activity, and costs and benefits including distributional effects.
37. In many cases, local communities and stakeholders can conduct or contribute to monitoring, which may enhance credibility of results with stakeholders. It may also be cost effective, contribute to capacity building, and indirectly be a way of recovering management costs. However, care needs to be taken to assure the quality of the results. There is increasing experience with cooperative research involving members of the fishing industry and science professionals, which can help to guide cooperative monitoring for MPAs.

5.4 Guidelines

38. The meeting agreed that FAO should prepare guidelines on the role of MPAs in fishery management.
39. There are many documents that address MPAs, including definitions, descriptions of specific applications, and guidelines for design of MPAs. FAO should build on the existing body of knowledge, specifically elaborating on it in the context of MPAs as a fishery management tool. It should not attempt to “reinvent the wheel.”
40. FAO guidelines should be comprehensive with respect to applications of MPAs to fisheries management, with emphasis on policy aspects, but not exhaustive in detail. The guidelines should help policy makers to understand concepts and approaches, and to realistically shape expectations.

They should also serve as a point of entry into more detailed literature on MPAs. FAO should not attempt to create an all inclusive body of knowledge about MPAs.

41. The guidelines should present an overview of the international legal context relevant to MPAs as tools for fisheries management. In the case of national MPAs and MPAs in areas beyond national jurisdiction this will need to include consideration of the rights of other States resulting from, for example, their membership of RFMOs with an overlapping mandate.
42. The guidelines also need to consider the implications of a State's international obligations and commitments in relation to its implementation of MPAs in its own jurisdiction. Although there may be no legally binding international instruments requiring countries to implement MPAs for fisheries management, their commitments to a number of non-binding instruments, such as the WSSD Plan of Implementation and the Code of Conduct for Responsible Fisheries imply such implementation.
43. The guidelines should highlight the importance of capacity building, including the role of community involvement and ocean literacy, as requirements for effective MPAs, particularly for developing countries. Fishery managers and policy makers would also benefit from capacity building.
44. The Workshop agreed that "Draft framework for technical guidelines on the design, implementation, and review of MPAs as a tool for fisheries management" addressed the appropriate topics to be considered in guidelines. Several suggestions for improving the framework were offered during the meeting (as indicated in the previous paragraphs), and these should be considered in the next draft of the framework. The meeting also urged FAO to draw on the six background papers prepared for the meeting.
45. In developing the Guidelines, the need for a balance in the treatment of the biophysical aspects and the socioeconomic aspects was highlighted, and indeed the Guidelines should avoid this division of disciplines, where possible.

5.5 Closing of the Workshop

46. The Workshop thanked the Chair (Ana Parma) and Co-chairs (Magnus Ngoile, Marea Hatzios, and Patrick Christie) for their valuable contributions, the authors of background papers, FAO Fisheries Department for organizing and implementing the workshop, and the government of Japan for financial sponsorship.
47. The Chair thanked participants for their contributions and closed the Workshop at approximately 1700 hours on 14 June 2006.

APPENDIX A

Workshop agenda

Monday, 12 June 2006

- Morning:*
- Opening
 - Introduction
 - **Background, concepts and definitions**
Experiences in use of MPAs: a review of case studies (presented by Carl Gustaf Lundin)
 - **Biological and ecological considerations**
Biological and ecological considerations in the design, implementation and success of MPAs (presented by Louis Botsford)
 - **Social and economic considerations**
Social, economic and institutional considerations in the design, implementation and success of MPAs (presented by Jean-Yves Weigel)
 - **Governance**
Best practices in governance and enforcement of MPAs: an overview (presented by Patrick Christie)
- Afternoon:*
- **Legal issues**
The legal framework for MPAs, including international binding and non-binding instruments and their incorporation into national legislation (presented by Tomme Young)
 - **Overview of issues and considerations**
Issues Arising on the Interface of MPAs and Fisheries Management (presented by Anthony Charles)
 - **Discussion of the initial draft framework for the guidelines**

Tuesday, 13 June 2006

- Morning:*
- **Step 1: Preliminary considerations** [and Policy/legislative issues]
- Afternoon:*
- **Step 2: Design** [Goals & Objectives; Criteria; Principles of design]

Wednesday, 14 June 2006

- Morning:*
- **Step 3: Implementation and Review** [Management; Evaluation/monitoring]
- Afternoon:*
- Drafting of conclusions and recommendations
 - Opportunity for informal presentations
 - **Adoption of conclusions and recommendations**

APPENDIX B

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APPENDIX C

Welcoming address by Mr Ichiro Nomura, Assistant Director-General, FAO Fisheries and Aquaculture Department

Ladies and Gentlemen,

Welcome to Rome, and Welcome to FAO.

I am pleased to welcome you to this Workshop on Marine Protected Areas and Fisheries Management. I would like to thank you all for joining this Workshop, and express my gratitude for your agreement in serving as experts.

As you may know, the FAO Fisheries Department mission is “to facilitate and secure the long-term sustainable development and utilization of the world’s fisheries and aquaculture”. This implies necessarily an awareness of the fundamental social and economic role which is played by the fisheries sector in meeting three basic objectives: global and national sustainable food security, alleviating poverty in fishing communities through employment, and generating national income.

The three objectives mentioned above can only be met, of course, through responsible management of fisheries, and through compliance with the standards and principles contained in the FAO Code of Conduct for Responsible Fisheries.

It is in this context that the FAO has begun to address the role of MPAs in fisheries management. As a start, the Organization is supporting efforts to achieve a better understanding of the linkages between MPAs and fisheries management, and to develop guidelines for the implementation and development of MPAs which would fully take into consideration these linkages.

As background to this Workshop, it must be recalled that the FAO Advisory Committee on Fisheries Research (ACFR) noted the emerging importance of MPAs as a fisheries management tool in 2002, and noted, as well, the possible significant positive and negative effects of MPAs on fisheries resources, and on social and economic conditions of fishers.

The subject was again raised at the twenty-sixth Session of COFI, that is the FAO Committee on Fisheries, which took place in March 2005. Many members then expressed their support for the use of MPAs as a fisheries management tool and pointed out that an increase in the use of MPAs should be anticipated in response to the call for their establishment and development by the Convention for Biological Diversity (CBD) and the World Summit on Sustainable Development (WSSD) Johannesburg Plan of Implementation.

COFI expressed appreciation for the number of potentially useful properties for fisheries management associated with MPAs, but also recognized the potential limitations and drawbacks, especially if MPAs are not properly designed and implemented. There was wide agreement among members that – and I quote – “the use of MPAs as a fisheries management tool should be scientifically-based and backed by effective monitoring and enforcement and an appropriate legal framework”. In addition, members mentioned the importance of several key aspects of MPA development including: using a participatory process in development and implementation, the need to set clear objectives for MPAs, and the need to monitor performance in achieving those objectives.

As a consequence of the twenty-sixth Session of COFI, suggestions and recommendations were made to improve knowledge and use of MPAs as a fisheries management tool.

First, the Committee agreed that MPAs were one of a number of management tools for fisheries and that they may be effective in combination with other appropriate measures such as capacity control;

Second, the Committee recommended that FAO develop technical guidelines on the design, implementation and testing of MPAs;

Third, the Committee drew attention to the need to liaise with and benefit from the experiences of a number of countries, IGOs and NGOs in the preparation of guidelines;

Fourth, the Committee agreed that FAO should assist its Members in achieving the relevant WSSD goals by 2012, in particular the establishment of representative networks of MPAs;

Finally, the Committee stressed that FAO should collaborate with other IGOs working on the topic, in particular the Convention on Biological Diversity (CBD) and the United Nations General Assembly (UNGA).

The final objective of the current project, of which this Workshop is an important component, is to provide benefits to FAO members in the form of enhanced information, methodologies and guidelines for better management of fisheries and for appropriate implementation of MPAs for fisheries management and conservation. Therefore, your contribution over the next few days in assisting FAO to achieve this objective will be very valuable.

Your task in the upcoming days will be to provide an initial review of issues to increase the understanding of links between fisheries management and MPAs. The work done here, will inform the eventual development of guidelines for effective and appropriate use of MPAs to fisheries management and conservation.

I would like to thank you all for taking the time to assist FAO with this task and for providing your wisdom and insights. I wish you a productive experience in the coming days and look forward with interest to the results of your work.

For those of you who are not familiar with FAO rules and procedures, I should perhaps clarify your role in this Workshop, which you attend in your individual capacity and not as representative of your government or organization. In this line, there is no difference in status between those of you who work with government or those of you who work with a private or non-governmental entity.

I finally wish to take this opportunity to thank, on behalf of the Organization and of the Fisheries Department, the Government of Japan for their support of this important work and through providing the funds necessary for the convening of this Workshop.

Thank you very much, Ladies and Gentlemen, for your attention.

APPENDIX D

Draft framework for Technical Guidelines on the design, implementation and review of MPAs as a tool for fisheries management

A. BACKGROUND

I. Introduction

1. Historical and policy background
2. Properties of MPAs that underlie WSSD goals

II. What is an MPA?

1. Definition of an MPA and types of MPAs
 - Review of existing definitions and categories
 - Proposal for recommended definition and categories for use in fisheries management and bio-ecological conservation
2. Potential consequences of MPA use on stocks and ecosystems
 - a) Likely consequences inside reserves
 - i. Exploited species
 - ii. Unexploited species
 - iii. Habitats
 - iv. Cascading effects
 - b) Likely consequences outside reserve
 - i. Larval and juvenile dispersal from reserve
 - ii. Spillover of adults
 - iii. Yields and catch per unit effort
 - iv. Habitats
3. MPA networks

III. The fisheries management process

1. The nature and goals of fisheries management (under EAF)
2. Major steps in the fisheries management process
3. MPAs as a management tool
 - a) Comparison of the management properties of MPAs with those of other fisheries management tools
 - b) Interaction of MPAs with existing management measures (possible synergies or conflicts)
4. Factors that can affect the potential consequences of MPAs on stocks and ecosystems
 - Habitat and ecosystem types
 - Other management measures in place
 - Other sources of uncertainty
5. MPAs and broader considerations (e.g. sectoral planning, ICM)

B. DESIGN

B.1 Considerations for Design

IV. Legal regime

1. International legal framework
 - Implications for national MPAs
 - Governance regimes

- Considerations for shared MPAs and MPAs in areas beyond national jurisdiction

2. National legal framework and integration with existing laws

V. Governance and management strategies

1. Governance system and decision-making
 - E.g. traditional, centralised, co-management etc.
2. Access and use regulations
 - Access and user rights
3. Enforcement strategy
4. Implementation uncertainty and ensuring robustness

VI. Biological and ecological considerations

1. Designing the physical features
 - Size
 - Number
 - Placement
2. The role of modelling
3. Data and information availability, including traditional knowledge, and their incorporation into design
4. Combining the use of MPAs with other management measures
5. Advantages and disadvantages of the use of MPAs compared to other measures

VII. Social considerations

1. Integration of coastal communities and traditional resource use patterns
2. Addressing societal objectives
 - Recognition of diversity
 - Livelihood strategies
 - Risk reduction strategies
 - Vulnerability
 - Food security considerations
3. Equity considerations
 - Distribution of costs and benefits from MPAs among current and potential new stakeholders
 - Distribution of costs and benefits over time

VIII. Economic considerations

1. Costs and benefits
 - Within fisheries sector and more broadly
 - Economic implications for management system
2. Incentives and compensation

IX. Institutional issues and options

1. Integration of MPA management system with fisheries management plan and system
2. Long-term financial and institutional viability
- 3.

B.2. The Design Process

X. Setting goals and objectives

1. Setting well-defined and realistic objectives
2. Integration of fisheries management objectives with conservation objectives

3. Conflicts and trade-offs

XI. Issue identification and prioritisation, and baseline assessment

1. Recognition of a need and programme preparation
 - Identification of a problem or a need which potentially could be addressed through one or more MPAs.
 - Why an MPA – biological, ecological, social, institutional aspects that bear on the application of an MPA or MPA network.
2. Integration with community/stakeholders and assessment of issues
 - Identification and analysis of stakeholders
 - Community/stakeholder organization and mobilization
 - Conduct of baseline studies
 - i. Biological/ecological
 - ii. Social and economic
 - iii. Institutional
 - iv. Incorporation of stakeholder, including traditional, knowledge
 - Information, education and communication

XII. Plan preparation and adoption

1. Formation of core planning group
2. Definition of goals and objectives
3. Preparation of management strategy and action plan
4. Determination of MPA boundaries and zones

C. IMPLEMENTATION***XIII. Implementation process***

1. Formalization of the reserve through appropriate legal process
2. Enforcement
 - Demarcation of boundaries
 - Enforcement responsibility and strategies (who and how)
3. Strategies to improve compliance
4. Revenue generation (e.g. permits and user fees)

XIV. Conflict resolution***XV. Capacity-building and strengthening community/stakeholder involvement.*****D. REVIEW AND MONITORING*****XVI. Indicators and information to be collected***

1. Biological and ecological (including physical/oceanographic)
2. Social, economic and institutional
3. Compliance and enforcement
4. Use of traditional and stakeholder knowledge

XVII. Strategy and mechanisms for information collection, storage and analysis***XVIII. Periodic management review and adaptation******XIX. Feedback into information management, education and outreach***