

**KEY POINTS FROM THE FAO WORKSHOP ON
THE ROLE OF MPAs IN FISHERIES MANAGEMENT**

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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.

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.

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.

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.
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.