

Key messages

- Governance is fundamental to fisheries, determining the manner in which power and influence are exercised over their management.
- Institutions play a range of roles in fisheries governance and affect whether or not fisheries can continue to provide economic, food security and livelihood benefits.
- Fisheries systems are complex and dynamic and fisheries management institutions must take account of a range of information types, as well as changing policy priorities in the sector.
- However, many institutions face severe human and financial constraints and there is a great need for capacity development and improved governance, particularly in developing countries.
- FMSP has provided training and supported capacity development in developing country fisheries institutions, contributing to improved management practices and more sustainable fisheries.

This brief examines the issue of governance in fisheries and its influence on fisheries management, with examples from the Fisheries Management Science Programme (FMSP), and considers the implications for capacity building and future work priorities. This brief is one of a series of five concerning fisheries and development issues produced by the FMSP.

Governance in fisheries

Fisheries governance is the sum of the legal, social, economic and political arrangements used to manage fisheries. It has international, national and local dimensions and includes legally binding rules as well as customary social arrangements [1].

The establishment of institutions, policies and processes through which management may be realised is fundamental to effective fisheries governance. Institutions are the sets of rules and arrangements (public and private, formal and informal) affecting a fishery, as well as the organisations that develop and implement those rules. National fisheries management authorities are usually a key part of governance structures, representing the legal state entity with authority for performing specific fishery management functions. Co-management committees, fishers' associations and other groups, and the relationships among them, also form part of the institutional arrangements for fisheries governance.

Policies define courses of action of a government or decision-making body, and are designed to influence future decisions or actions. Fisheries policies are put into action through local management plans in a cyclical process and local plans should therefore be consistent with the overarching policy. Information is crucial to this process, informing the development of appropriate local plans. Monitoring and evaluation of local management

plans during and after implementation is important to assess whether they are working as expected or not. Information from such monitoring also helps evaluate the performance of overall policy.

Governance issues are fundamental in ensuring effective fisheries management (see Box 1). While the management process is relatively straightforward, successfully putting it into practice is not. Global reviews of the current state of fish stocks by FAO indicate that prevailing systems of fisheries governance have been largely ineffective at controlling access to fishery resources to ensure their sustainability [2]; one quarter of fish stocks are fished beyond sustainable levels, and half of all stocks are fully exploited, with no potential for increases in production with increasing fishing effort.



Comanagement committees, as well as national fisheries management authorities, form part of the governance arrangements for fisheries. Photo by: S.F.Walmsley

The complexities of fisheries management

Fisheries are dynamic systems and management must take account of a variety of factors and uncertainties. Some of the issues that make sustainable management a complex issue and the management process so difficult are outlined below.

Dynamic and complex systems

Fish stocks are part of complex ecological systems, influenced by a large number of variables and environmental uncertainty. External factors also impact on fish stocks, such as habitat loss or damage, pollution, storms, flooding and climate change.

Fisheries policies should establish the broad objectives for management, create a framework within which management plans for individual fisheries can be developed, and also create an enabling environment within which management planning can take place. However, as a result of the complexity of the systems, and the need for fisheries to satisfy biological, social and economic goals, there are often no clear policy objectives.

Multiple objectives

Management objectives will normally include maximising the economic or social benefits to be derived from a fishery. However, at the same time, there must also be biological goals that seek to maintain the stock at productive levels and protect it from collapse. Sometimes, these objectives may conflict with each other. For example, maximising employment in the fishery may not be compatible with sustainability or wealth generation.

Lack of information

Effective management requires information about the biological, social and economic aspects of a fishery. However, this information can be difficult to collect and often is not available.

Because fish cannot be directly observed and counted in the same way as trees or crops, establishing how many fish there are and how many can be caught sustainably is problematic. Even without fishing, fish stocks will fluctuate because of variability in growth and recruitment as well as environmental conditions, including climate change. These fluctuations are often difficult to predict.

Practical difficulties also make gathering information difficult, especially for small-scale fisheries. A single fishery will often include several species, caught with several different types of fishing gear, and widely dispersed landing sites that are difficult to monitor.

Often, the funding available to the fisheries sector to generate and use such information is inadequate. This may be because policy makers and planners have failed to appreciate: the importance of fisheries; the complex and dynamic roles that fisheries can play in people's livelihoods; and, the interactions between these contributions and the biological state of the resource.

Box 1: FMSP and fisheries governance

FMSP work on policies for controlling foreign fishing vessels' activity has contributed to improving fisheries governance. A case study in the Seychelles (Project R5049CB), which evaluated alternative policies on licensing, surveillance and penalties demonstrated:

- Increased capacity of the Seychelles Fishing Authority and other key stakeholders involved in controlling foreign vessels;
- Better control of foreign fishing activities, with illegal boats being arrested and convicted;
- Adoption of recommendations and revision of legislation;
- Increased government income through fines, licensing and increased use of port services.

A separate study on illegal, unreported and unregulated (IUU) fishing, which costs globally in excess of US\$2.4 billion annually, found that governance issues played a key role in the occurrence of IUU activities — in those areas where fisheries governance was weak (e.g. lack of monitoring, control & surveillance activities, limited enforcement of regulations, corruption, weak institutions), IUU activities were more prevalent [3].



Fisheries patrol boats, such as this one in the Indian Ocean, are essential for enforcement of fisheries regulations and effective management in large scale fisheries. Photo by: R.Gater.

Issues of scale

Fisheries vary enormously in scale, from village managed ponds to large, highly migratory fish stocks, such as tuna, that travel across national boundaries. The scale of a fishery determines the type of governance structures and institutional arrangements needed for its effective management.

For example, with migratory fish stocks, management must take into account the full range of the fishery and must be coordinated between countries to regulate exploitation and ensure sustainable management. This may require the establishment of appropriate new institutions for implementation. For small-scale fisheries resources, management planning should take place at an appropriate local scale, although this may be greater than any one fishing community that exploits the resource. In either case, nested institutional arrangements between the regional, national and local levels are important.

Changing governance structures in fisheries management

Governance structures must provide appropriate legal, social, economic and political arrangements so that appropriate management strategies can be developed for different fisheries. Over the past 50 years, there have been significant changes in the governance and policy context of fisheries, with implications for the roles of institutions involved in fisheries management.

Changes can be observed in the objectives, approaches and policies of fishery management systems. There has been a shift in objectives from maximising production and employment to sustaining stocks and taking into account wider ecosystem aspects. Policies have shifted from the use of command-and-control instruments to inter-sectoral policies, access rights and more participatory approaches.

There have been accompanying changes in governance systems, from top-down centralised management towards more devolved and participatory management structures involving the devolution of power from the centre to lower levels of government [4]. For small-scale fisheries in particular, the failure of top-down, centralised arrangements have led to increased interest in developing more devolved and locally accountable management structures, and the development of co-management and community-based management arrangements.



A fisher in Zanzibar presents priorities for the local coral reef fishery in a workshop involving various stakeholders to discuss management issues. Photo by: S.F.Walmsley.

The need for capacity development

Fisheries organisations underpin sustainable fisheries management and they need to be able to perform their functions effectively. In many cases, capacity development is needed for organisations to fulfil their roles to support sustainable fisheries and thus maintain the economic, food security and livelihood benefits that can be derived from them. FMSP has focussed on developing the capacity of fisheries organisations through the projects it has carried out (see Box 2).

Lack of financial and human resources

In developing countries, many management authorities face severe constraints in their ability to fulfil their responsibilities and adapt to the changing governance environment. These include:

- Lack of financial resources due to limited government budgets. This may be confounded by lack of recognition of the importance of the fisheries sector, and therefore adequate funds not being allocated from national budgets;
- Lack of human resources, in terms of numbers and also in terms of appropriate training and education. This is compounded by the complex and dynamic nature of fisheries and difficulties of data collection.

Changing roles of institutions

Changing governance structures, policy priorities, and approaches to fisheries management mean that

Box 2: Developing capacity for fisheries governance through FMSP

FMSP has contributed to capacity building in developing country fisheries institutions, promoting improved governance and management practices to promote sustainable fisheries. These include:

- Development of stock assessment software and management guidelines to improve the management of inland and marine fisheries stocks (Projects R8468 and R8486);
- Provision of training courses to fisheries management organisations to improve their capacity to use management tools and guidelines (various projects including R8464 and R8468);
- Promotion of co-management including guidelines on the development of information systems for co-managed fisheries, and techniques for involving resource users in management planning (Projects R8462 and R7947);
- Extension and outreach in partnership with national and local organisations, involving fishers and local communities in research exercises and in projects, increased skills, knowledge and uptake (most projects).

The FMSP strategy of working in partnership with local fisheries authorities and other organisations has resulted in transfer of knowledge and skills through the process of developing, implementing and evaluating projects, and has increased uptake and application of the management tools.

institutions and organisations must continually change and adapt to the social and political environment. The roles of fisheries organisations in this new governance system can be quite different from their conventional roles, and training and capacity building is necessary for them to be able to respond to these new responsibilities.

Potential roles of fisheries management institutions include [5]:

- Collecting information (inc. catches, landings, discards, species, fishing effort, social and economic characteristics of each fishery);
- Analysing information to identify trends and determine the appropriate modifications to management measures;
- Ensuring participation of stakeholders in the management process including the selection of appropriate management measures, and facilitating this process;
- Providing training and capacity building to local management structures/organisations to be able to take on increased responsibilities and authority for management;
- Ensuring local management plans are coherent with wider sector and national policy objectives;
- Monitoring, control and surveillance to encourage compliance with the regulations (some of this role may be taken on by local groups in coastal or inland fisheries, but the government will play a key role for offshore industrial fisheries in the EEZ).

The creation of new institutions for fisheries management such as co-management committees and local management organisations also requires capacity building for the people involved to take on new roles involved in developing, implementing and monitoring local management plans.

Priorities for future work

Governance issues are fundamental to achieving effective fisheries management that ensures fisheries' sustainability and maintains their contributions to economic growth, food security and livelihoods. Further support is needed in the following areas:

- Research to determine the appropriate governance structures required in different circumstances for various fishery types, depending on the scale at which they operate and the stakeholders involved.
- Capacity building of developing country fisheries institutions to be able to fulfil their evolving roles in a changing governance environment, to address new and emerging issues and to adopt appropriate management measures and resolutions.
- Improving and strengthening data collection, handling and dissemination, including the development of tools and methodologies for fish stock assessment, appropriate for developing country contexts.

References

- [1] FAO 2001. FIGIS Topics and Issues Fact Sheet: Fisheries Governance. Fishery Policy and Planning Division. Rome: FAO.
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- [3] MRAG 2005. Synthesis Report — Review of impacts of Illegal, Unreported and Unregulated Fishing on Developing Countries. London: MRAG.
- [4] World Bank 1992. Governance and Development. Washington DC: World Bank.
- [5] FAO 2000. FIGIS Topics and Issues Fact Sheet: National governance of fisheries. Marine Resources Service. Rome: FAO.

For more information:

Further information about fisheries and development issues can be obtained from the Fisheries Management Science Programme (FMSP) and Marine Resources Assessment Group (MRAG) Ltd.

Fisheries Management Science Programme:

The FMSP website has a searchable database where full-text project documents and reports can be downloaded:

www.fmsp.org.uk

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This FMSP Policy Brief is one of a series of five. Other briefs in this series are:

1. Fisheries and Poverty Reduction
2. Fisheries and Economic Growth
3. Fisheries and Food Security
4. Fisheries and Livelihoods

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