



## Policy Briefs

The purpose of these Policy Briefs is to ensure effective dissemination of information collected and generated as a result of the World Bank-funded Study of Good Management Practice in Sustainable Fisheries, the ACP Fish II Feasibility Study (EC), and a Workshop on Fiscal Reform in Fisheries (DFID and GTZ).

## World Bank Study

During 2003, the project 'Study of Good Management Practice in Sustainable Fisheries' was undertaken by SIFAR with funding from the World Bank. This resulted in an initial (brief) report followed by the substantive report which have contributed to a recent internal World Bank process aimed at justifying future investments in fisheries sector development.

## EC ACP Fish II Feasibility Study

During 2002/2003 SIFAR/FAO undertook a feasibility study on behalf of the European Commission (European Aid Cooperation Office - AIDCO). This comprised an extensive consultation process with fisheries sector participants from over 60 ACP countries, together with the preparation of a range of major project proposals covering capacity building for more effective fisheries management in Africa, the Caribbean and the Pacific.

# 12. Key concepts I: Fisheries management systems and governance

## Overview

The debate regarding fisheries governance and its relationship to fisheries management systems centres on an understanding of these two key concepts. They are widely used terms but are not easy to properly define and to quantify. These terms are sometimes used interchangeably, indicative of this lack of definition.

## Key issues

### GOVERNANCE

The World Bank has defined governance as:

*'the manner in which power is exercised in the management of a country's economic and social resources'<sup>(1)</sup>.*

The power exercised in relation to the management of fisheries is generally broader than that exercised by a fisheries management authority through a set of management arrangements which it has put in place. While governments exercise considerable power over the management of fisheries, it is not, however, the preserve of government to have power or influence.

In a very practical way, power over the management of a fishery resource may be exercised, for example, by a fishing community, or a group of wealthy business people, a trade union, or an association of fish processors. The power exercised might even be illegal (e.g. through bribery), but nevertheless a real component of what, in effect, governs the management of fisheries resources. It is necessary to recognise the reality of existing power and influence if effective fisheries management is to be achieved. Institutional arrangements might need to change to accommodate the participation of stakeholders in their legitimate exercise of power, while undue power exercised by others might need to be curbed before management becomes effective in achieving its objectives.

A definition of governance from the Governance Working Group of the International Institute of Administrative Sciences (1996) captures some of these elements more explicitly:

*'Governance refers to the whole array of processes whereby elements in society (government and non-government) wield power and authority, and influence and enact policies and decisions concerning public life, and economic and social development'<sup>(2)</sup>.*

The governance literature emphasises the need for all societal institutions to be involved in governance activities, and for all relevant societal and institutional levels and inter-relations between them to be taken into account.

This understanding of the broad implications of fisheries governance is reflected in a shift in

## DFID Fiscal Reform in Fisheries Workshop

In October 2003, SIFAR organised a Workshop and Exchange of Views on Fiscal Reform in Fisheries - to 'promote growth, poverty eradication and sustainable management'. This took place in the context of a wider OECD-DAC Initiative, promoted through the UK Department for International Development (DFID), examining issues related to environmental fiscal reform.

perspectives regarding the nature of fisheries management expressed in the international fisheries literature. The limitations of the conventional fisheries science-based conceptualisation of the fishery have been recognised, as have the management systems based upon it, with its emphasis on government top-down command and control mechanisms. These are giving way to approaches that take account of multi-disciplinary and systems-based conceptualisations of the fishery. These approaches focus on the nature of the interaction between government and fishery stakeholders, in terms of institutional development and the wider political, economic, and environmental context.

### FISHERIES MANAGEMENT SYSTEMS

A fisheries management system may be defined as the institutional structure and administrative routines intended:

- to generate the information needed to make effective decisions on the use of limited financial and personnel resources with the purpose of optimising benefits from fisheries resources for society, and
- to make those decisions, and
- to implement them and assess their efficacy .

Three basic levels of conceptualisation of fishery systems are used in fisheries management.

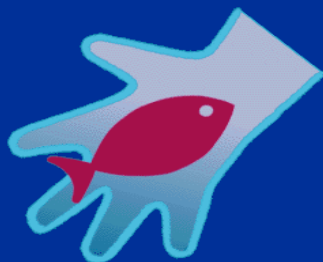
At the *first level*, the prevailing fisheries science paradigm conceptualises a fish stock (the resource), which is affected by fishing activity (fishing effort). Management focus is on the harvesting sub-sector and, more specifically, on each of the particular fish stocks being targeted. Management focus on fishing effort arises from an assessment of the state of the stocks. Information is gathered by management on the fish stocks and fishing effort and is used as the basis for decision-making.

The focus of management is conceived as controlling fishing effort in order to achieve a particular catch and stock level. There is a range of biological (e.g. Schaefer, 1954), bio-economic (e.g. Hannesson, 1992) and bio-socio-economic (e.g. Panayotou, 1982) models associated with this paradigm. These share many common assumptions and features. In particular, the focus of management is the resource, the issues (problems and solutions) are considered at the level of each fishery, and many of the main assumptions are derived from the 'tragedy of the commons' paradigm.

At a *second level*, the human sciences approach to the conceptualisation of a fishery system has three basic components within the harvesting sub-sector – the resource (fish stock), activity (fishing effort) and the actors (fishers). This approach emphasises that the management of fisheries is primarily a problem about the behaviour of people, not about the behaviour of fish (as in the case of the fisheries science paradigm above). The actor (fisher) is the prime focus of management, and various attempts have been made to explore, explain and predict actor behaviour through

#### Conceptualisation of fisheries systems references:

- Acheson, J.M. (1981) Anthropology of fishing. *Annual Review of Anthropology*, 10:275-316.
- Catanzano, J., and B. Mesnil (1995) Economics and biology in fisheries research or when social and natural sciences try to depict together the object of their research. *Aquatic Living Resources*, 8:223-232.
- Charles, A.T. (1995) Fishery science: The study of fishery systems. *Aquatic Living Resources*, 8:233-239.
- Charles, A.T. (1988) Fisheries socio-economics: a survey. *Land Economics*, 64 (3):276-295.
- Cunningham, S., Dunn, M.R. and Whitmarsh, D. J. (1985) *Fisheries economics: An introduction*. London: Mansell and St Martins.
- Hannesson, R. (1992) *Bioeconomic analysis of fisheries*. Oxford: Fishing News Books.
- Jentoft, S., B.J. McCay and D.C. Wilson (1998) Social theory and fisheries co-management. *Marine Policy*, 22(4-5):423-436.
- Panayotou, T. (1982) Management concepts for small-scale fisheries: economic and social aspects. *FAO Fish. Tech. Pap. No. 228*.
- Pido, M.D., R.S. Pomeroy, M.B. Carlos and L.R. Garces (1996) A handbook for rapid appraisal of fisheries management systems. *ICLARM Educational Series*, 16.
- Schaefer, M.B. (1954) Some aspects of the dynamics of populations important to the management of commercial marine fisheries. *Bull. I-ATTC*, 1(2):25-56.
- Wilson, J.R. and R. Lent (1994) Economic perspective and the evolution of fisheries management: towards subjectivist methodology. *Marine Resource Economics*, 9:353-373.



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economics (e.g. Cunningham, Dunn and Whitmarsh, 1985), social and political economy (e.g. Jentoft, McCay and Wilson, 1998), institutional economics (e.g. Wilson and Lent, 1994) and cultural economics (e.g. Acheson, 1981).

At a *third level*, the fisheries systems approach sets the harvesting sub-system (actor-activity-actor) and the management authority within a much larger total system, comprising two major spheres – the physical bio-sphere and the social sphere. The behaviour of fish stocks is embedded in a much wider system of interactions in the bio-physical sphere. Fishing effort, through the behaviour of fishers, is embedded in a much wider system of interaction within the social sphere. This type of systems approach for fisheries has been explored by Catanzano and Mesnil (1995), Charles (1995) and Pido *et al* (1996).

Three issues of importance emerge from this exposition of the different approaches to the conceptualisation of fisheries systems and consequently for the fishery management systems based on them. First, the conceptualisation of fisheries systems has progressed from a simple fisheries science-based approach to the more sophisticated and all-embracing systems approach. Second, the limitations of the fisheries science approach to provide adequate fisheries management advice are now better understood. Third, the possibilities for developing appropriate fisheries management systems based upon multi-disciplinary approaches, which reflect the complexity and dynamics of the system, have been widely recognised.

## IMPLICATIONS FOR KNOWLEDGE REQUIRED AND INSTITUTIONS

Fishery systems are complex, and the management systems needed to optimise the benefits accruing from fisheries require institutions and knowledge systems able to cope with the multi-disciplinary requirements of the fisheries management function. The discussion above suggests that fisheries managers need to have available to them more knowledge, over a wider range of disciplines in order to make properly informed decisions.

There is an indisputable need to build the capacity of fisheries institutions to identify, generate, deliver and utilise knowledge relevant to fisheries management. However, the level of complexity of the knowledge required is daunting and some is very expensive to obtain. This immediately raises the question as to how these knowledge needs can be met under conditions where many fisheries management authorities do not have the financial and personnel resources to meet a more limited spectrum of knowledge requirements.

The *best available knowledge* should remain the basis upon which decision-making in policy formulation and monitoring takes place. Knowledge should be within the realm of what is realistic and attainable. A useful aspect of the systems approach to understanding how a fishery works, is that it encourages broader and more realistic analysis of the fishery. However, decisions should not be delayed pending the availability of knowledge that goes well beyond the capacity of the expertise and finances available. The need for fisheries managers to make decisions on the basis of imperfect, though best available knowledge is closely associated with the application of the precautionary principle. The ability to define the dimensions or limits of relevant knowledge, and to succinctly present and cost-effectively produce this knowledge to inform decisions, is a skill that managers and researchers need to be encouraged to develop. Innovative ways of efficiently sharing relevant knowledge could also considerably enhance fisheries management performance.

## Key literature

SIFAR/FAO (2003) [Feasibility Study Report for a proposed programme on “strengthening fisheries management in African, Caribbean and Pacific countries”](#) (2003) (ACP Fish II FSR): Appendix 3A. “A review of fisheries management performance in developing countries, with particular reference to issues of policy and governance”.

World Bank (1994) [Governance: The World Bank's experience](#). Washington DC: World Bank.

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(1) World Bank (1994).

(2) Governance Working Group of the International Institute of Administrative Sciences (1996) [Governance: a working definition](#).

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