



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



The Economics of Aquaculture with respect to Fisheries

95th EAAE Seminar
Civitavecchia (Rome), 9-11 December 2005

Edited by
Kenneth J. Thomson and Lorenzo Venzi



THE GOVERNANCE ECONOMICS OF CAPTURE AND AQUACULTURE FISHERIES

Kenneth J. Thomson¹

Abstract

The “new institutional economics” has influenced the study of public (or policy) choice, e.g. via the organization and incentives of “stakeholders”, and the analysis of international and other (e.g. state-private) agreements. Stakeholders in fisheries policy include fishermen and their families and communities, processors, scientists, environmentalists, fish product consumers, other (non-fishing) marine, coastal and land users, government fisheries departments, and taxpayers. These play different roles, with different weights, in policy discussions, as shown in the reformed Common Fisheries Policy (CFP) of the European Union. The recently set up North Sea Regional Advisory Committee is used as an illustration. Conclusions suggest that successful governance of capture fisheries requires state intervention via a multi-level hierarchy, clear property rights, better information, and probably stronger monitoring or control of technology and fishing behaviour.

Keywords: fisheries, aquaculture, governance, policy, North Sea

JEL classification: Q22

Introduction

This paper is an attempt to apply governance economics to fisheries and aquaculture, mainly in developed countries, and with a focus on the North Sea countries with an interest in the EU’s Common Fisheries Policy (CFP). However, the approach may have relevance elsewhere within the EU, and in other developed and developing countries. However, full international governance of fisheries, e.g. on the “high seas” beyond the 200-mile limit, and between developed countries (or the EU) and developing countries (e.g. African littoral countries and Indian and Pacific oceanic island states) would probably go beyond the considerations here, e.g. to political trade-offs between fishing and non-fishing interests (see González Laxe, 2004).

After introductory theoretical material, some characteristics of the main stakeholders in fisheries are considered in the light of the approach. Then, evidence from recent CFP developments is interpreted, before tentative

¹ Emeritus Professor, Department of Geography and Environment, University of Aberdeen, St Marys, Elphinstone Road, Aberdeen AB24 3UF, U.K.; e-mail k.j.thomson@abdn.ac.uk

conclusions about the usefulness of governance economics in analysing fisheries sectors are drawn.

Theoretical Material

Governance refers to “*the process whereby elements in society wield power and authority, and influence and enact policies and decisions concerning public life, and economic and social development*” (www.gdrc.org/u-gov/work-def.html). Clearly, this involves decision-making, but also (a) the expression and acceptance of “power and authority” by those involved, and (b) the organisation of society in its efforts to “develop” (or to stabilise, i.e. not to develop). Along with culture, religion and other influences, governance reflects the fundamental values held and expressed by various social groups, and more specifically it concerns how conflicts between these values can be addressed.

The economics of governance (Williamson, 1996) is a branch of the “new political economy”, itself a branch of the “new institutional economics”, which applies the concepts and theories of neoclassical economics to organisational forms such as firms (Coase, 1937) and government agencies (Wilson, 1989) and to their behaviour, such as their transactions (e.g. contracts, interventions, and more generally information) and “games” (negotiations, agreements). It focuses on socio-economic development (e.g. of “social capital”²), and has been applied to public finance and “public choice” (Buchanan and Tullock, 1962).

Applications of these approaches can take a wide variety of forms, from the conceptual through the descriptive to the quantitative. For example, Koremenos *et al.* (2004) identify five “key dimensions” of international institutions - membership, scope (of issues), centralisation (of tasks), control and flexibility (to new circumstances) - and use rational design and game theories to explain observed variability in terms of distribution (i.e. the existence of choice), the number of actors, enforcement, and uncertainty (e.g. imperfect information). In terms of behaviour, one might observe the frequency of process activities, their costs in time and money, their nature (one-to-one negotiations, agenda-led committees, voting, or demonstrations). Of course, the perennial political-economy issues of efficiency and equity are always in the background.

Some of these problems are common to both aquaculture and capture fisheries (and to sports fishing, not dealt with here), but usually to different degrees, and obviously with different solutions and results according to the technologies used by fishermen in their professional activities, and by the size and nature of their organisations and those of their governments.

² “Features of social organization such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit” (Putnam R., www.bsu.edu/classes/white2/honors/teaching/soc.html).

Stakeholders in Fisheries

The following stakeholders may be expected to influence the fisheries sector and its policies³:

- fishermen (individuals, companies, cooperatives)
- fishermen families and communities
- fish processors
- scientists
- environmentalists
- fish product consumers
- other (non-fishing) marine, coastal and land users, e.g. shipping, oil and gas extraction, agriculture, water suppliers
- leisure interests (locals and tourists)
- government fisheries departments
- taxpayers, e.g. as represented through finance ministries.

Of these, most fishermen operate household businesses not unlike farmers, combining investor, managerial and manual roles, and rely on a family or other “close” labour force. Many operate increasingly large and specialised items of capital equipment, and, of course, are dependent on a product market notorious for price (and quality) uncertainty and seasonal fluctuation. Of course, fishermen do not own or operate land, but the financing of a boat is not dissimilar to a mortgage (long-term loan on property). As small and individualistic economic agents operating in a sector with obvious need of regulation due to well-known common-property reasons, fishermen may be expected to form and operate policy-oriented organisations not unlike farmer unions. And indeed, these are observed in many EU countries, often being professional, influential and media-wise. However, as with farmer unions, they have to cover and satisfy a wide range of interests, such as demersal and pelagic, littoral and distant, and – often most importantly – regional, with fishermen’s home ports frequently being widely scattered round a country’s coastline even if the main landing ports are somewhat more concentrated.

Like land-based food producers, most fishermen sell into a food chain dominated by merchants and processors, whose economic interests lie in high volumes and alternative supply sources. And, as on land, the combination of supply security and high investment costs have led to various forms of vertical integration although not to the degree seen for example in some forms of retailing. In economic reaction, individual fishermen have formed cooperatives – sometimes with government and legislative support – in efforts to exert market power, and these have inevitably taken on political (i.e. governance) characteristics.

³ There are non-policy aspects of the broad “governance” issue, e.g. setting technical and agendas such as promoting “modern” methods, and behavioural (usually local) ones such as exercising leadership within fishing sectors and industries. However, attention is restricted here to issues that involve “government” and its actions, i.e. policy.

Of the rest of the stakeholders in the above list:

- Fishermen's families and communities support their men's economic activity politically⁴ and sometimes practically (initial handling, onshore management, etc.).
- Fish processors face the same challenges as other food manufacturers confronted by a food retailing sector increasingly dominated by giant retailers operating in several countries and with strict quality and labelling requirements⁵.
- Scientists and environmentalists interested in and knowledgeable about fishing are relatively few, and many divide their interests between species of commercial importance and those in the wider ecology of rivers, lakes and oceans. State support for their activities, whether directly via fisheries institutes or indirectly by involving non-governmental organisations (NGOs) in policy discussions, is clearly crucial but may vary widely.
- Consumers have yet to show a focussed interest on fish as a food, with the exception perhaps of shellfish, with their distinctive menu role and occasional disease scare. In general, it seems that – encouraged by increased degrees of product processing – they look upon most fish as another source of relatively cheap protein, without the concerns over animal welfare that have led to vegetarianism and to EU legislation over farm livestock husbandry, transport and slaughter. However, as stocks are reduced, and media coverage increases (see Swinnen *et al.* (2003) for an account of a food scare episode, though not for fish), this may be expected to change.⁶
- Other users of waters have similarly yet to exert significant power, partly through the possibilities for multiple use, and partly because in most cases fishing is the traditional user whose rights and customs must be challenged by newcomers. However, the growth of aquaculture has resulted in legislative and planning development clarifying the position over rights to the seabed, water quality, etc.
- The inclusion of national and regional fisheries departments in the above list of stakeholders assumes –realistically? - that such departments have a “life” and interests of their own, and do not simply represent a neutral

⁴ In the UK, this is more obvious than with farm families since the latter tend to be widely scattered. In the rest of Europe, village residence by farmers is more common, with obvious advantages in maintaining political and social cohesion.

⁵ See De Felipe and Briz (2004) for analysis of the Spanish fish chain, which is based on Madrid, where Mercamadrid is the largest fish wholesaler in Europe. Several new trends are noted, including the growing strength of supermarkets compared to traditional fishmongers (still common in Spain), and of price- (rather than quality-)sensitive catering services.

⁶ Several UK supermarket chains (e.g. Marks & Spencer) now advertise the sustainability of their fish product sourcing. The 172-store Waitrose chain has won a BBC food award, partly on the basis that it stopped sourcing from the North and Irish Seas (see websites).

“clearinghouse” or forum for reconciling the interests of other stakeholders. Responsibility for aquaculture may lie with a department (mainly of capture fisheries) more or less separated from the department of agriculture, or with a specialized component of the latter.

Finally, what of the position of the taxpayer who, through finance ministries, pays for much fisheries policy? Regulatory constraints such as quotas which do not themselves involve public expenditure but require policing (see Long and Curran, 2000), and may bring demands for “compensation” or assistance in altering catch techniques. There is no doubt that fisheries policy is expensive: in the UK, it has been estimated (Cabinet Office, 2004) that about £100 million of public money (not including decommissioning costs) is spent annually on managing an industry which lands about £540 million in catches. The EU’s 2000-2006 budget for its Financial Instrument for Fisheries Guidance (FIFG) is €1.11 billion, for an industry with a total annual catch (EU-15) of some €2 billion, and there is separate funding for inspections and controls (€35 million in each of 2004 and 2005), and for research. In fact, EU and national aids to the sector amount to some €850 million per year⁷, and world subsidies (mainly in developed countries; OECD, 2002) have been estimated (Milazzo, 1998) at US\$5.5 billion in 1999, amounting to 20-25% of revenues⁸.

All this of course reflects the difficulty and complexity of fisheries policy, with a wide variety of species being caught or farmed over a very wide area of land and water, and only limited capacity to monitor and control activities. Nevertheless, like agriculture (under whose wing the fisheries budget can sometimes shelter), the budget cost seems accepted as a necessary price to pay in order to maintain a long-established if small national industry whose presence in marine waters is probably seen as geopolitically desirable.

The relative influence of these stakeholders in determining fisheries policy no doubt varies from time to time, and from place to place, but generally it would seem that, as Adam Smith expected in any commercial sector, production/processing interests have prevailed over those of consumers. However, the obvious problems of exploiting a common resource such as a sea, lake or river has strengthened the role of (i.e. established the need for) government regulation of fishing activity, while environmental problems such as biodiversity loss and product safety have led to increased powers from environmental and food-market interests.

⁷ Annualised programmed FIFG expenditure for 2000-2006, plus approximate annual sums for national aids and research (EU Commission: see http://europa.eu.int/comm/fisheries/pcp/faq3_en.htm)

⁸ An equivalent measure for developed-country agriculture is about \$230 billion or 31% of revenue (OECD, 2003).

EU Fisheries Policy and the North Sea

EU fisheries governance is dominated by the Common Fisheries Policy (CFP), and various bilateral/regional agreements, including those with neighbouring states (e.g. Norway) and with more distant ones (e.g. developing countries).

The 2001 Green Paper (European Commission, 2001b) identified a number of principles to improve fisheries governance, as follows:

- Regional Advisory Committees (RACs) to involve stakeholders more effectively in policy-making, though with at least two-thirds of their members from the fishing sector (see Council Decision 19 July 2004)
- more transparency in scientific advice, currently provided to the Commission through the International Council for the Exploration of the Seas (ICES)⁹
- decentralisation of certain management responsibilities to cope with local and emergency situations
- better CFP compatibility with coastal zone policies via integrated coastal zone management (ICZM).

So far, three out of seven RACs have so far been authorised and are – apparently successfully – in operation (North Sea, Pelagic and North Western Waters). Others are about to start (South Western Waters and Baltic Sea) or remain to be established (Mediterranean and Long Distance Fleet), due to problems with their Secretariats, or the structure of their Management Boards. Commission funding totalling €7.5 million over 2004-2011 is on a sliding scale, from 90% of costs (€200000 per RAC) in the first year, to 50% in the fifth year¹⁰, with deficits made up by membership subscription. Member States provide “appropriate support”, e.g. meeting rooms, scientific experts, etc., and the secretariat is subsidised by whoever holds it (T. Hawkins, *pers. comm.*). The Commission seems prepared to continue financing RACs beyond the five years initially envisaged.

Appendix 1 contains some information on the setting up and work of the North Sea RAC. From these and other observations, it may be noted that:

- Along with its counterparts, the RACs represent a new voice in the management of EU waters. Although they may represent a (further) “bias” towards producers in the operation of the Common Fisheries Policy, this needs to be weighed against the need to secure producer acceptance of and participation in the CFP.

⁹ ICES was established in 1902, and so must be one of the oldest international institutions. See Lawson (1984, Appendix 1) for a list of several other fishing bodies.

¹⁰ Plus €50000 each year for translation.

- RACs are dependent for funding and other support on local, sector, regional/national and Commission bodies, and on the EU timetable of CFP policy-making.
- RACs are only advisory bodies, and it is not clear how independent they can be, e.g. in offering “advice” to the Commission when unasked, or in taking their views to the media. So far, those set up have been quite active, e.g. in gathering scientific as well as socio-economic advice.
- European “umbrella” organisations of traders, environmentalists and others, with limited funds and personnel, may find it difficult to ensure full participation in all RACs and their subsidiary bodies. The same can be said of the Commission, whose Fisheries Directorate has limited staff.

In addition to RACs, the “new” CFP since 1 January 2003 involves:

- more multi-annual decision-making
- responsibility for capacity reduction devolved to Member States (though still within agreed limits as set at EU level)
- strengthened enforcement mechanisms
- increased structural adjustment funding, with emphasis on decommissioning.

The effectiveness of these new arrangements remains to be seen, but in governance terms they clearly represent a move to supplement largely centralised decision-making, advised via ICES and national technical channels, with more devolved and perhaps more continuous policy ¹¹comment and advice. They may represent a new route by which Member States can try to influence the Commission. At best, they will enable a more balanced and effective voice to the various interests, by encouraging political intercourse at an additional level and by modifying the “messages” reaching the ultimate decision-makers at the Brussels level. At worse, they will entrench existing suspicions and dislikes, at considerable cost in professional time and travel allowances.

In a multi-centred but annualised system, the timing of decision-making inputs and conclusions is important. Currently, two months pass between ICES delivering scientific advice on fish stocks to the Commission and the December Council taking management decisions on TACs and quotas for the following year. This “*makes it difficult for fisheries managers at national and Community level to examine and draw conclusions from the advice. It also makes it more difficult to involve stakeholders in the decision-making process*”,¹² and changes are being discussed.

On a wider scale, but often mediated through the European Commission as the EU’s trade negotiator, both the UN Food and Agriculture Organisation (FAO) and the World Trade Organisation (WTO) are major fora. The FAO has

¹² See europa.eu.int/comm/fisheries/news_corner/press/inf05_68_en.htm.

promoted a number of the Codes and Plans¹³ (all so far voluntary), while the WTO attempts a “level playing field” for international trade in products and services, currently through the Doha Development Round of negotiations. These WTO negotiations raise the question whether (or how far) such a trade forum should drive fisheries management, as it is doing for agriculture. The rising importance of food safety, genetic engineering, labelling regulation and “non-trade issues” such as animal welfare is already apparent in this international arena, and may become more so for fisheries. The relationship between the WTO, the Biodiversity Convention and the various international fisheries agreements seems likely to attract increasing attention. However, the range of problems in fisheries would appear to require multiple solutions, e.g. different geographical levels of management. Technological control such as physical monitoring should be strong, but is necessarily limited by socio-economic behaviour, especially evasion.

Economic Lessons for Fisheries Governance

From all the above, what lessons can an economic approach offer towards the understanding and improvement of fisheries governance? It should be re-stated here that economics is only one of a number of disciplinary approaches; others, such as biology, political science or sociology, may be equally illuminating. However, the above analysis suggests a number of areas.

The importance of uncertainty (biological, climatic, political, commercial) is a pervasive feature of fisheries and thus its governance. In economic terms, the presence of uncertainty (unquantified risk) implies a high value on new information¹⁴, whether to cross-check existing data or on new features so far unquantified or even recognised. Multiple sources of information – which itself is an unusual commodity, being reproducible at virtually no cost or loss – enables discussion and hence potentially investment in social capital or mutual trust. Multiple facts and opinions can also lead to a major reduction in commercial uncertainty, as illustrated by the financial markets which offer a well-defined price for future transactions in (e.g.) finance and some commodities, even when great underlying uncertainties exist. Discussion of a continuous flow of information from several sources is also likely to lead to better agreement on identifying (and thus assessing) specific risks.

With the sea and coastline being inevitable locations of multiple users, whether from a single sector or several, the principles of co-management deserve

¹³ For example, the Code of Conduct for Responsible Fishing, the Code of Hygienic Practice for the Products of Aquaculture, the International Plan of Action for the Management of Fishing Capacity, a Plan of Action against Illegal Fishing, and the (via the UNEP) the Convention on Biological Diversity in Marine and Coastal Habitats.

¹⁴ The term “knowledge” is avoided here since so much data, even from scientific sources, can be and is challenged as regards its reliability or “truth”.

further consideration. In agriculture, at least, such management, as in cooperatives, have a patchy economic record, but there are successful instances, though perhaps mostly in static situations¹⁵. The need for clear definition of property rights (including voting powers), whether these belong to individuals, regions (e.g. producer/interest groups), or countries (governments) appears fundamental to such governance. Participation in fisheries management should bring clear benefits to those involved; non-participation should impose clear costs.

Finally, a number of more general issues – general and political – may be identified. One embedded in almost every policy debate is the balance to be struck between efficiency and equity. As indicated earlier, economics, through its fundamental reliance on individual consumer (or citizen) choice, is in no position to determine the optimal or even acceptable balance. However, it can provide information and ideas on relative levels which characterise various options or possibilities in both areas, leaving the ultimate outcome to the broader debate. Cross-sectoral comparison (e.g. with agriculture, or with urban poverty) should help.

As with any policy area, “rent-seeking” by various old and new interest groups, i.e. the receipt of benefit through government action, is an ever-present danger, with current beneficiaries motivated to incur costs in lobbying, media relations, etc. in order to maintain and increase their gains, while the losers (normally many more, though individually to a much smaller extent) are less willing to attempt to rectify the situation. Perhaps the only solution is to ensure strong citizen or taxpayer representation within a broad debating forum. Thus, assigning fisheries policy to an all-industry government department would force the confrontation of environmental and budgetary interests.

The lack of “social capital” within the fisheries sector, amongst fishermen, scientists, environmentalists and others, requires immediate attention, which the RACs may or may not provide. There is not even agreement on what is “the problem”, e.g. insufficient or inaccurate data, incompetent policy design or (if different) implementation, illegal or incompetent fishermen activity, or the lack of alternative livelihoods. Wider and more continuous media exposure runs the risk of entrenching current attitudes but seems more likely to result in a wider and more homogeneous appreciation of the problems of the industry and its communities. The EU’s new CFP is still evolving, and will take time to do so, but for some species there appears to be a need for haste to avoid crises of the kind that have already occurred elsewhere. And there is a need to address international problems of over-fishing, which should not be exported from Europe to poorer countries around the world, where equally if not more difficult fisheries problems exist¹⁶.

¹⁵ Seki and Platteau (2001) have analysed “community arrangements” in Japanese fisheries.

¹⁶ See Kirkley *et al.* (2003) for a recent example of economic analysis for a developing-country fishery.

References

- Buchanan, J. and Tullock, G. (1962) *The Calculus of Consent: Logical Foundations of Constitutional Democracy*, University of Michigan.
- Cabinet Office (2004) *Net Benefits: a Sustainable and Profitable Future for UK Fishing*, Prime Minister's Strategy Unit, London. <http://www.strategy.gov.uk/downloads/su/fish/pdf/NetBenefits.pdf>
- Coase, R. (1937) The Nature of the Firm, 1937, *Economica*, 4(13-16), 386-405.
- Dungworth, M.-L. (2002) *Species Dependence and Fisherman Behaviour: Evidence from North-East Scotland and Galicia*. PhD thesis, University of Aberdeen.
- De Felipe, F. and Briz, J. (2004) *Fish Chain Performance in Madrid Market: an Empirical Analysis*, paper for 84th EAAE Seminar, Zeist, February.
- European Commission (2001a) *Communication from the Commission on the Precautionary Principle*, COM(2000)1. Brussels
- European Commission (2001b) *Green Paper: the Future of the Common Fisheries Policy*, COM(2001)135, Brussels.
- González Laxe, F. (2004) *Fisheries Governance*, paper to 6th Conference of European Evaluation Society Governance, Democracy and Evaluation, Berlin.
- Kirkley, J. E., Squires, D., Alam, M. F. and Ishak, H. O. (2003) Excess Capacity and Asymmetric Information in Developing Country Fisheries: the Malaysian Purse Seine Fishery, *Amer. J. agric. Econ.*, 85(3), 647-662.
- Koremenos, B., Lipson C. and Snidal D. (eds.) (2004) *The Rational Design of International Institutions*, Cambridge University Press. See also the same authors and title at *International Organization*, 55(4), (2001), 761-799.
- Lawson, R. M. (1984) *Economics of Fisheries Development*. London: Pinter.
- Long, R. J. and Curran, P. A. (2000) *Enforcing the Common Fisheries Policy*. Oxford: Blackwell/Fishing News Books.
- Milazzo, M. (1998) *Subsidies in World Fisheries: a Re-examination*, Technical Paper no. 406. World Bank: Washington DC.
- Organisation for Economic Co-operation and Development (2002) Fish Crisis: a Problem of Scale, *OECD Observer*, no. 233, August. OECD: Paris.
- Roberts, C. J. (ed.) (1997) *Deep Water: Fisheries Policy for the Future*. Edinburgh University Press.
- Seki, E. and Platteau, J-P. (2001) Community Arrangements to Overcome Market Failure: Pooling Groups in Japanese Fisheries, in M. Aoki and

- Y. Hayami (eds.), *Communities and Markets in Economic Development*. Oxford University Press, Oxford.
- Swinnen, J., McCluskey, J. and Francken, N. (2003) *Food Safety, the Media and the Information Market*, plenary paper delivered to 25th International Conference of Agricultural Economists, Durban, August.
- Williamson, O. (1996) *The Mechanisms of Governance*. Oxford University Press.
- Wilson, J. Q. (1989) *Bureaucracy: What Government Agencies Do and Why They Do It*, New York: Basic Books.

Appendix 1: The North Sea Regional Advisory Council (NSRAC)

The “principal objective” of NSRAC is “... *to prepare and provide advice on the management of the fisheries of the North Sea on behalf of stakeholders in order to promote the objectives of the Common Fisheries Policy ... within the general aim of attaining the sustainable management of fisheries, incorporating an ecosystem based approach and based on the precautionary principle*” (see www.nsrac.org). It has 22 members representing fishermen from 10 EU countries, plus environmentalists, anglers and recreational fisheries, crewmen, fishing communities, marine breeders, ports, traders and auctioneers, and also a non-voting rapporteur (Professor Tony Hawkins of Loughine Ltd.), and a small secretariat. It has set up 5 Working Groups

From a governance point of view, the following may be noted as regards the NSRAC structure:

- the dominance of fishermen representatives
- the absence of representatives from national or regional governments, or from the European Commission, though these may attend as “active observers”, along with a representative from the Advisory Committee on Fisheries and Aquaculture, and representatives from third countries
- the absence of scientific representation from fisheries research, other than via environmental interests
- the absence of representation from other marine users, e.g. shippers, oil and gas extractors, coastal agencies, etc.
- the low representation of downstream interests, e.g. processors, retailers (there is one place for the European Organisation of Fish Traders)
- the important role of the Rapporteur, who provides continuity, coherence and professional expertise.

As regards their activities most relevant to this paper, the meeting of the Spatial Planning/Marine Protected Areas Working Group in August 2005 noted “significant scientific concern over the implementation of managed areas for fishery management purposes”, and advocated the statement of clear objectives (often, of course, code for unhappiness with existing policy), prior evaluation of expected benefits, prior consultation with affected interests, and subsequent monitoring and assessment of managed area schemes. The “agreed record” of the first meeting of the Socio-economic group in September 2005 reflects concern that the new Economic Analysis Unit at the Commission’s DG Fish might “remain economic/bioeconomic” rather than socio-economic, and agreed a baseline study outline of “dependency” on fishing and vulnerability to policy shocks, and to work on a “protocol” which the RAC could use to communicate with DG Fish.