



NGO Workshop on Rights Based Management
23rd March 2009 – 13.00 to 18.30
Square Bastion 1a – 4th floor (FAEP Office)

Suggested Background Reading

Selected Positions:

Birdlife International, Coalition for Fair Fisheries Arrangements, EBCD, FISH Secretariat, International Collective in Support of Fishworkers, Seas at Risk, Oceana (2007): NGO position to the Commission Consultation on Rights-Based Management tools in fisheries:

WWF (2007): The use of rights-based measures in fisheries management.

ACFA (2007): ACFA's advice on the Commission Communication regarding the rights-based management tools in fisheries (COM(07)73 final)

Reports and articles:

ICSF (2007): Sizing Up - Property Rights and Fisheries Management: a collection of articles from SAMUDRA Report. In that you might read in particular:

- Preface
- Hijacked by neoliberal economics, by Menakhem Ben-Yami
- No one-size-fits-all approach, by Ichiro Nomura
- The litmus test, by Sven Jentoft
- Fulfilled, healthy and secure?, by Jean Kearney.

MRAG, IFM, CEFAS, AZTI Tecnalia & PoIEM (2009): An analysis of existing Rights Based Management (RBM) instruments in Member States and on setting up best practices in the EU.

Commission Consultation on Rights-Based Management tools in fisheries

NGO position¹

Prepared by CFFA - September 2007

For NGOs (see list), the objective of this debate is to determine, by using rights based tools for fisheries management, how to promote environmentally sustainable fisheries that are economically viable, generating quality jobs, which redistribute the benefits generated equitably, and which protect the social fabric of coastal communities.

Given the large variety of management systems currently applied, we think that a first necessary step is to document the best practices that, in the various Member States and elsewhere, promote fisheries that respect both ecosystems and coastal communities, and are economically viable.

On this issue, we would like to highlight that, in order for appropriate management systems to be applied to the particular situations existing in the various regions, "*the large variety of management systems currently applied in the European Community and its member states*" is a strength. In our view, concerns over transparency and efficiency (which the Commission attributes to the diversity of systems) result more from the way these systems are implemented (opacity of procedures, lack of control, etc) than from their diversity.

In the process of documentation, particular attention should be given to the experiences of the various Member States as regards small-scale fisheries, in order to allow a better knowledge and recognition of this sector's potential, which is an essential component of the coastal area. Small-scale fisheries participate in coastal area (land/sea) management, and strengthen the economic and social fabric in that fragile portion of our maritime zones.

This approach should help us to see how rights based management tools can contribute to fulfil the main objective of the CFP, i.e. an "exploitation of resources that provides sustainable economic, environmental and social conditions" (Council Regulation (EC) n° 2371/2002).

¹ List signatory NGOs: Birdlife International, Coalition for Fair Fisheries Arrangements, EBCD, FISH Secretariat, International Collective in Support of Fishworkers, Seas at Risk, Oceana. These NGOs are member of the NGO Contact Group for the Advisory Committee on Fisheries and Aquaculture.

At this early stage of the debate, we would like to propose that the discussion focuses on two issues that, in our view, could help put in place economically viable, socially equitable and environmentally friendly fisheries:

- **Fishing units practising environmentally friendly, economically viable, and socially equitable fishing should be given priority access**

We fully agree with the Commission that rights based tools for fisheries management should help improve the efficiency of fisheries management, and facilitate its implementation.

Therefore, in line with the fisheries management objectives of the CFP, an approach to providing access to resources in ways that favour sustainable fisheries would be for priority access to be given to those who best fit “sustainable development” criteria, to be identified with the stakeholders (professionals, NGOs, etc)

These criteria could include the use of selective, non destructive fishing techniques, low fuel consuming techniques (one of the costs that most affect the profitability of the fishing enterprises); enterprise management that generates high quality products, a high number of jobs (at sea/on land), with decent working conditions, etc

For coastal fisheries, criteria concerning the integration of stakeholders in the social, economic and organisational fabric of coastal communities should also be taken into account.

A set of criteria which encourage responsible behaviour, help the use and dissemination of innovative techniques, and give priority access to operators that best meet these criteria would allow, in our view, economic viability to be reconciled with respecting workers rights and environmental sustainability.

Such an approach should also penalise, through a restricted access to resources, units that use unselective fishing methods, that destroy ecosystems and have a negative impact on biodiversity, units that have high running costs (for example those that use disproportionately high quantities of fuel), which produce a low level of jobs, etc

The financial support from EFF to help operators, particularly those from the small scale-sector, to better respect sustainable development criteria proposed, is an important aspect of the implementation of such approach.

This approach needs also to be combined with resource management systems that implicate strongly the stakeholders (co-management, TURFs, integrated management of the coastal zone, etc)

- **Transferability of access rights**

Within the legal framework of the European Union (right of establishment etc), the management systems currently in place in the various Members States have caused an economic value to be conferred on fishing rights, and this has started an unregulated market for fishing rights.

Proposing to formalise this market², under the pretext that it will be easier to regulate is not a solution, because that does not allow the social and environmental shortcomings inherent in the system to be dealt with.

Therefore, we don't agree with the view expressed in the Commission Working Paper which considers that the fishing rights system of individual transferable quotas will *de facto* increase the sense of responsibility of the beneficiaries and will automatically lead to a sustainable management of the stocks whilst halting the race to fish. The economic argument of cherishing an ITQ as 'an asset' does not hold for a situation where there is a commons. There are several examples, including from Netherlands and Iceland, which seem to indicate that the introduction of national ITQs does not necessarily lead to a decrease in either fishing capacity or fishing effort. On the other hand it seems that concentration of ownership into the hands of a few operators has already been observed where there is no official market for fishing rights

Implicit in the introduction of ITQs and other rights based management systems is the concentration of ownership of fishing rights. This may be detrimental both to resource sustainability and to equity in the sector. It is therefore necessary to ensure that checks and balances are applied in any rights based systems of fisheries management to prevent the concentration of ownership and the associated harmful environmental, social and economic impacts.

² The Commission notes that it is easier to introduce restrictions if there is a clear market for fishing rights, where the transactions are transparent and can be controlled.



POSITION PAPER

September 2007

Compiled on behalf of the WWF
Fisheries Network by:

Chris Grieve
Executive Director
Meridian Prime, UK
+44 20 8293 5583
chris@meridianprime.co.uk

For further information contact:

Karoline Schacht
Marine Fisheries Officer
International Centre for Marine
Conservation, WWF Germany
Hongkongstr. 7
20457 Hamburg
Germany
+49 (40) 530200-127
Schacht@wwf.de

Dr Simon Cripps
Director
International Marine Programme
WWF International
Ave du Mont Blanc
1196 Gland
Switzerland
Tel: +41 22 364 9032
Fax: +41 22 364 0526

THE USE OF RIGHTS-BASED MEASURES IN FISHERIES MANAGEMENT

Introduction

The purpose of this paper is to set out WWF's position on the appropriate use, or otherwise, of rights-based measures as management tools as WWF pursues its far-reaching vision for sustainable, well-managed fisheries and healthy marine ecosystems.

This Position Paper draws on theories and practice that have informed the use, or otherwise, of rights-based measures within fisheries management, fisheries conservation and fisheries science (economic, social and ecological) communities. The terminology in this paper is drawn from that in common usage in fisheries literature, rather than general academic literature on property rights or related topics. Background material, including a complete list of references, is provided as an annexe to this paper.

This paper does not advocate a 'best fisheries management' approach. It presents the considerations that ought to inform choices about when it may be appropriate to use rights-based measures in fisheries and some of the measures that could be chosen.

Systemic quest...

Perhaps one of the most elusive goals of fisheries management is figuring out how to design holistic fisheries management systems that harness people's enlightened self interest, empower people in the management process, and achieve sustainable fisheries and marine ecosystems for the long term benefit of this and future generations.

Fisheries managers have grappled with this challenge for decades. Fishing communities have grappled with it for centuries. Unfortunately these days, the urgency and complexity of the problems have often led to a desire for quick fixes, where wholesale technical solutions are applied to specialised problems. Different academic disciplines, be they biologists, sociologists, anthropologists or economists, have promoted different tools which have been adopted by managers and governments as universal remedies, rather than using integrated, trans-disciplinary approaches (Degnbol et al, 2006). The ecological, social and economic context of the fish and a fishery are interrelated and the idea of incentives that promote enlightened self-interest cannot be readily separated from these other factors (Hilborn et al, 2005).

Context is everything with most management systems. The people within the social ecology of a fishery are the ones that will make a difference and it is they and the overarching management system, as a holistic concept, that count. There is no magic fix. Implementing "Rights-Based Management" instead of some other "x-based management", oversimplifies complex social, economic and ecological issues. WWF's policy framework for ecosystem-based management in marine capture fisheries is based on the notion that managing fisheries for sustainable fish stocks, sustainable livelihoods and sustainable ecosystems means that the design of the entire management system needs to take account of the complexity and interconnectedness of human nature and the natural environment. The best designed and most successful fisheries management systems can and do employ structures and mixtures of measures, instruments and tools that provide incentives for those exploiting, managing and researching the resources to drive towards sustainability.

Defining and allocating access to a share of the fisheries pie

Fisheries have been characterised as examples of the “tragedy of the commons” (Hardin, 1968). Individual fishers act rationally in pursuit of their own livelihood or wealth, but by adding together the impact of all individuals’ so-called rational behaviour a race for fish is created, which eventually spirals into over-capitalisation and over-exploitation of fisheries.

One solution, sometimes characterised in economic terms, has been to invent various ways to limit access and create use rights to portions of the available resources, either through input, output or spatial controls. Sometimes this has involved privatising resources by granting property rights. This approach is popular with some sections of the fisheries management ‘community’, and deeply unpopular politically, philosophically, morally or ethically with others. Some reject the notion that the solution can be found by reference to ideas about property and advocate dealing with the problem of the commons through political or governance structures that empower people and communities at grassroots levels to steward resources.

Whichever way one thinks about fisheries resource access and use, it can amount to the same thing. At a most basic level, fishers in this day and age need (either collectively as communities, or individually) the ability to **limit access to resources by excluding others**. Rights or privileges can enable holders to act as if the fisheries resources are monetary, cultural or societal assets and manage them for the long term.

Many developed fisheries have limited entry or access privileges which confer a form of right on fishers, but often these rights are considered ‘ill-defined’. When rights or privileges are not well defined, perverse incentives are created that motivate individuals to behave in ways that are rational for them, but still produce irrational outcomes for the whole.

Regardless of their philosophical position about privatisation of resources *per se*, many experts, stakeholders and interested people agree that taking human behaviour into account – people’s values, motivations and the incentives that will influence them – and the social ecology of fishing, will produce better fisheries outcomes. And that this *must* be part of the fisheries management mix.

Cultural and socio-political factors relating to wealth distribution, private property, income and power are important considerations. Indeed, perhaps more fundamentally, for millions of people in coastal communities around the world, are concerns about guaranteeing and defending the right to fish for food and the right to fish for a livelihood.

So while, to some, the mention of rights conjures up notions of economic efficiency or privatisation, these are clearly not the only considerations. A broader approach should first focus the discussion on a fishery’s specific context, and if creating some form of exclusivity is to be a part of the solution, only then focussing on the most appropriate forms of exclusive access that will enhance and encourage resource stewardship.

Strategic policy & practical design checklist

The following section provides a list of considerations that the WWF Network will use to judge rights-based measures, from the strategic policy level, down to practical design issues. WWF advocates using this checklist as an aid to determining whether rights-based measures are appropriate in any fishery context in the first place. Only specific, detailed analysis of individual fisheries will reveal which options will provide the best value and benefits (Ben-Yami, 2007).

Using the list, asking and answering the questions, will also help determine whether rights-based measures being proposed in a particular fishery will be of benefit to the fishers, the community or other relevant stakeholders. Therefore, the checklist will help stakeholders form a position in relation to the rights or privileges under discussion in a specific fishery context.

Objectives – economic, social, ecological and/or political. What are the objectives of the fishery management system? And, how specifically will rights-based measures serve those objectives? And, to whom will the anticipated benefits of rights-based measures go?

Characteristics of the fishery - ecological, economic and/or cultural. Do the characteristics of the fishery lend themselves towards: 1) implementation of rights-based measures at all; and if so, 2) are particular kinds of rights more appropriate than others?

To which **species** (target, single or multi-species, and or bycatch species), and/or **method**, and/or **geographical area/range** will rights apply?

Type – will rights be Community, Individual, or Territorial?

Sub-type – will rights be related to output (catch quotas by vessel, by permit/license, by ‘quota holder’), input (days at sea, gear units, other units of effort), and/or area (sq km, etc)?

Characteristics of rights (see Background) – what is the total quantum of rights to be allocated or area (exclusivity); what is the length of title; will they be transferable, divisible, flexible, etc? Bearing in mind

the combination, or bundle, of characteristics can determine how well benefits will be realised. In almost all ITQ regimes some basic limits have been placed on the characteristics of the rights allocated, especially their duration, transferability and divisibility, which sometimes includes ownership limits. These are perfectly valid, but must be consistent with the objectives of the fishery management system.

Other features – what other features will rights have? For example, minimum holdings (to maintain viability) or maximum holdings (to prevent too much consolidation) by species, stock, area or method; licensed fishing operators only or limits on absentee holders (to limit the corporatisation of the fishery); must be linked to active fishing vessels; only owner/operators; unfettered free market; unlimited concentration / consolidation; use a system of overs and unders to prevent excessive discarding.

Eligibility – who or what is eligible to be granted or to acquire rights? For example, communities; provision for treaty and indigenous peoples; crew and skippers; processing facilities; active vessel owners; all vessel owners including latent or diversified vessels; anyone. Who will benefit from the allocation and distribution of rights?

Initial allocations – how will the first allocations be made? For example, based on historical catches (grandfathering); historical fishing grounds; vessel capacity; auction; lottery; determined by independent panels; committees of stakeholders; provision of loan funds; community trusts; (See papers from Sharing the Fish Conference, 2006)

Other considerations – will there be cost recovery, transfer taxes, science & research funds, and/or trust funds to acquire quota for smaller scale or indigenous fishers?

Concerns about high grading, black markets, and data fouling – how will these concerns be overcome? For example, use observers, designate ports of landing, independently verify catches, use inspection and enforcement at sea or in port.

Conclusions

WWF maintains a healthy scepticism about the ability of 'rights-based management' *per se* to fix the problems of overcapitalisation and overfishing and sustain fishing communities and livelihoods. Rights in themselves are not a panacea. The basis for management must be much broader and more inclusive than the idea of simply allocating rights.

However, just because WWF maintains that rights are not a fix for all the ills of fisheries management, does not mean that rights-based measures or access privileges cannot be valuable operational incentives to help pursue ecologically sustainable

fisheries, if they are designed appropriately and complemented by other measures. In that sense, WWF supports actively promoting the use of **appropriate** rights-based measures.

One size does not fit all. ITQs, or other kinds of rights or access privileges may not be ideal, appropriate or desirable in every type of fishery. However, **if designed and implemented properly**, they have been shown in some fisheries to create positive incentives to fishers and fishing communities (see Theory versus Practice section).

There are certain characteristics within fisheries management systems WWF advocates and issues of relevance for WWF when rights or privileges are being considered in fisheries:

- o Rights should be **nested within a holistic (EBM) management system** that also has:
 - o a participative or co-management decision-making framework;
 - o management at the appropriate spatial scale;
 - o long term management plans or strategies based on clear ecological, economic and /or social objectives;
 - o limit and target reference points, or surrogates with similar intent and outcome;
 - o formally adopted harvest strategies with pre-agreed, binding rules to implement if circumstances change; and
 - o robust, science-based decision-making that takes account of complexity, uncertainty and risk.
- o Rights must be **well defined**.
- o Rights must be **appropriate to the objectives of the fishery's management system and the social and economic context of the fishery**.
- o Rights should be **appropriate to the ecological characteristics of the species / stocks**.
- o Rights should be **designed from an informed standpoint**, creators of rights must:
 - o make informed judgements about the true social costs and benefits;
 - o consider exactly what qualities the rights should have, such as transferability, divisibility, flexibility in the context of desired ecological, economic and social outcomes; and
 - o consider the implications for distribution of income, wealth and power.
- o **Fishing communities, fishers and the fishing industry should be involved** in determining whether rights are appropriate and the form rights may take:

- considering whether stakeholders have adequate institutions or forums in which to negotiate and protect their rights.
- **Initial allocation methods** for rights should be **appropriate to the objectives** of the fishery, **based upon input from stakeholders**, and result in **rational** and **equitable** outcomes:
 - considering how existing fishers will be treated;
 - considering the potential for creating overnight assets and wealth and the potential socio-economic impacts;
 - considering the downstream structural changes in the industry and/or community that may be inevitable from certain kinds of allocation mechanisms; and
 - considering how new entrants may or may not be able to enter the fishery.

The holistic fishery management system itself should be supported by:

- **Robust stock assessments, other measures to control fishing mortality, monitoring, control and enforcement, and robust sanctions or penalties.**
- Precautionary decision making which **incorporates the human dimension.**

Additional measures that **prevent, reduce or minimise adverse outcomes**, such as discarding

- or high grading (in the case of ITQs) perhaps through the use of observers, or rules
 - to prevent quota or flag hopping.
 - **Additional measures** aimed at **meeting other conservation and sustainability objectives** like biodiversity, including risk assessment methodologies to determine at-risk species in need of special measures, or the use of marine protected areas or other spatial management tools.
 - **Other market-based incentives** should be available to fishers, such as ecolabelling and certification to sustainable fishing standards.

In closing, WWF's position on rights-based measures in fisheries management cannot be reduced to a single, simple sentence. WWF does not state that it is for or against rights as a generalisation. Rather, this Position Paper captures the complex issues that need to be considered in the context of fisheries management regimes that endeavour to use incentives to enhance people's and communities' stewardship of resources. Ensuring the ability of rights or privileges, along with other tools, to help deliver specific ecological, social and economic objectives within a holistic ecosystem-based management regime, is the primary focus for WWF.

European context

The European Commission is conducting a consultation among Member States on the creation of a rights-based management system under the European Union's Common Fisheries Policy (CFP) which would allocate rights to individuals, groups or communities (CEC, 2007). The main emphasis of the discussion is about improving the economic efficiency of Europe's fisheries.

Two important features of the current CFP have a major bearing on the future development of rights-based measures within the European Union. The first is the principle of "relative stability". This concept is enshrined in EU regulation and is intended to ensure "a predictable share of the stocks for each Member State". The second feature is that each Member State can set its own economic, social and cultural objectives for fisheries management once the predictable share of the annual catch has been allocated to it. Therefore, each Member State has its own legal framework within which rights-based systems already do, and would in the future have to, work.

There are a number of choices open to the European Community, each with attendant challenges and potentially profound and unpredictable consequences:

1. Do away with "relative stability" to enable the allocation of a variety of transferable / tradable rights for fish stocks within regional (rather than national) areas, such as the North Sea, or Baltic or Mediterranean Seas. In practice, this would mean that the Community would no longer allocate quotas to Member States, but to individuals, groups or communities. Once the initial allocations were granted to individuals, groups or communities, and after the Council of Ministers determined the total allowable catch for each species, the quota market would then determine allocations on an ongoing basis.

Alternatively,

2. Maintain relative stability, in which case a Community-wide system of transferable rights between individuals would be impossible to implement because allocation would revert back to the Council of Ministers' decisions on quotas each year.

Under this scenario (2. above), there are some options too:

- a) Develop a 'Community' sanctioned set of rights mechanisms or framework that Member States could implement within their jurisdictions according their fishing sector or fishing community needs and objectives. For example, an overarching European Community 'Rights-Based Measures Framework'. Or;

b) Maintain the status quo, where Member States can allocate transferable or other rights as they see fit within their own jurisdiction.

Or finally,

3. Do away with relative stability for limited categories of shared stocks that are deemed appropriate for regional management, for example, offshore, deepwater species, and introduce individual, group or community transferable rights across regions, administered at a European Community level.

And,

4. Maintain relative stability for allocation of stocks inside 6 or 12 nautical miles, enabling introduction of appropriate territorial use rights or other community or individual rights for smaller scale, less intense fishing, or fishing for sedentary species.

An important consideration for the European Community is that transferable rights or privileges regimes would be *virtually irreversible* without huge cost to governments in the form of market-rate compensation to those who invest in purchasing rights or privileges.

There are other potential drawbacks, aside from some of the negative consequences discussed earlier in this paper, that are particular to the European context. For example, under scenario 2. above, "flag hopping" and "quota hopping" is known to exist now and could be exacerbated without measures to prevent it. This means fishers and fishing companies can evade rules and enforcement by one Member State by acquiring quota to fish against other Member States' fishing opportunities. This effectively displaces effort from one Member State to others and diminishes the benefits that might be realised by effort reduction and/or the allocation of rights.

Another major, but related, issue at the European level is the effectiveness of enforcement and control. This can have a major impact on the ability of rights-based measures to deliver the intended benefits. The Community Fisheries Control Agency was established in 2005 and became operational in 2006. The aim of the Agency is to improve enforcement and control across the EU and the first joint enforcement activities were announced in May and July 2007 for the Baltic region and cod fisheries respectively. Enforcement and control systems under the CFP, regardless of whether rights-based measures are universally introduced, must be made effective, noting that responsibility for this still largely lies with each Member State.

Finally, politically-based decision making to determine annual Total Allowable Catches continues to compromise the ability to control fishing mortality and to achieve healthy stocks for many species managed under the CFP, despite relatively robust scientific stock assessments. Dealing with this drawback is critical for any successful fisheries management system, including any system that introduces rights-based measures.

CEVIS project may reveal useful European lessons

The CEVIS project by 13 European research institutions and coordinated by IFM in Denmark is designed to conduct comparative evaluations of innovative solutions in European fisheries management. Specifically, the project will be examining four types of regime level (i.e., fishery management system) innovations: the use of participatory approaches to fisheries governance; rights-based regimes; effort-control regimes and decision-rule systems. The innovations will be assessed in relation to biological, economic and social objectives. The conceptual framework will be tested against four European fishing regions and the results will be incorporated into a report that evaluates these regime-level innovations in a European fisheries context. The project began in 2006 and is expected to run for 36 months, with an anticipated completion date some time in 2008.

It is hoped that this project will reveal important lessons about the potential of rights-based measures in the European Community, particularly within a broader fisheries management context, i.e., in combination with participatory management and other system level changes. The outcomes of the project should inform the development of a broader, regime level approach to the challenges facing fisheries managed by the European Community.

WWF's position on the use of 'rights-based measures' in EU fisheries

Consistent with WWF's position outlined in this paper, WWF advocates considering the complex interactions between the social, economic and ecological objectives that should be pursued under the Common Fisheries Policy. Rights-based measures must be nested within a holistic management system. Using rights-based measures should be informed by detailed consideration of the intended outcomes, the expected benefits (and to whom these will accrue), taking into account the specific cultural, social, economic and ecological context of the particular fishery to which such measures may be applied. One size does not fit all and rights-based measures are not a panacea for all the challenges facing European fisheries. However, if appropriately designed and implemented, rights-based measures can offer positive incentives. The options must include consideration of communal-use rights (community property), as well as individual rights. Affected stakeholders must be involved in determining whether rights are appropriate tools for their fisheries, and if so, what form they should take.

BACKGROUND

BACKGROUND INFORMATION AND REFERENCES

Defining and allocating access to a share of the fisheries pie

Fisheries have been characterised as examples of the “tragedy of the commons”. A much quoted article written by Garret Hardin (1968) described this phenomenon, although Aristotle probably wrote about it first (Grafton et al, 1997; Wilson et al, 2006). Using the analogy of grazing cattle on common ground, Hardin demonstrated that to an individual herdsman adding one or more cattle to graze the pasture is a perfectly rational idea – he reaps all of the benefits in the short term, while the impacts are borne by all herds people. There is no incentive to save grass for tomorrow because one of his neighbours will put cattle on the pasture instead, also a rational act for the individual. With each herdsman acting similarly, the grass is overgrazed. Eventually the pasture collapses and everyone loses – therein lies the tragedy. The idea gained huge traction when extrapolated to fisheries with open access or ineffective controls. Each fisher acts rationally in pursuit of their own livelihood or wealth, but add together the impact of all individuals’ so-called rational behaviour, and a race for fish is created, which spirals into over-capitalisation and over-exploitation of fisheries.

One solution, sometimes characterised in economic terms, has been to invent various ways to limit access and create use rights to portions of the available resources, either through input, output or spatial controls. Sometimes this has involved privatising resources by granting property rights. This approach is popular with some sections of the fisheries management ‘community’, and deeply unpopular politically, philosophically, morally or ethically with others. Some reject the notion that the solution can be found by reference to ideas about property and advocate dealing with the problem of the commons through political or governance structures that empower people and communities at grassroots levels to steward resources (see ICSF, 2007; Collet, 2007; and Pauly, 1996 for a range of views on these ideas).

There is a school of thought that fisheries resources are publicly owned and that access to them to generate a livelihood or wealth should be called a privilege not a right (Anon, 2007; ICSF, 2007). By contrast, another strongly advocated school of thought is that, for coastal peoples and communities, fishing is a way of life not purely an economic activity. And that this way of life signifies an ‘ontological expression’ of their connection to both land and sea that are inseparable from who they are as a part of nature. Thus their access to, and use of, fisheries resources as a fundamental aspect of being alive and having a livelihood is a basic human right (S. Collet, pers comm). Customary or traditional marine tenure systems embrace this notion, as do traditional common

property management systems, along with ideas about enclosure and exclusivity, and over centuries community-based management derived from kinship and lineage connections developed (Aswani, 2005; Kurien, 2000).

Whichever way one thinks about fisheries resource access and use, whether as rights or privileges, it can amount to the same thing. At a most basic level, they give fishers (either collectively as communities, or individually) the ability to **limit access to resources by excluding others**¹. So in fact, limiting access to fisheries resources always results in some winners and some losers, and by definition this is an act of wealth distribution. By leaving fisheries as open access in a “free-for-all” system, wealth is dissipated for everyone. However, rights or privileges can enable holders to act as if the fisheries resources are monetary, cultural or societal assets and manage them for the long term. (See Christy, 1996; del Valle et al, 2006; Grafton et al, 2005; Hatcher & Frost, 2003; ICSF, 2007; Iudicello et al, 1999; Pauly, 1996; Pearse & Walters, 1992; OECD, 2006; Scott, 1989; Squires et al, 1998; Symes, 1998; Wilson et al, 2006.)

As noted earlier, some traditionally managed small scale fisheries embrace the notion of exclusivity where elders or the headman say who can fish, where and when they can fish and sometimes how much they can take. This approach or similar can be found today in the customary fishing grounds known as *qoliqoli* in Fiji or with the re-establishment of reef and lagoon tenure in Palau and other Pacific islands, and in customary tenure systems in the Solomon Islands and Papua New Guinea (Grieve & Short, 2007; Hilborn, 2007; Aswani, 2005).

Many developed fisheries have limited entry or access privileges, with licences to fish perhaps carrying some regulations dividing fishing days, gear allowances or shares of the catch amongst a fleet or community of fishers, or using spatial management tools. These do confer a kind of right or privilege on fishers, but these rights are considered ‘ill-defined’. There may be conditional but exclusive rights to fish, but badly defined or no exclusive right on *how much* individuals can fish. This has been described by Grafton (1996) as “limited-user open access” and by Hilborn et al (2005) as “levels of exclusivity” where, even though some exclusivity exists, the cumulative effects within the management system can be like open access fisheries where resources are wasted and wealth dissipates for everyone. When rights or privileges are not well defined, perverse incentives

¹ Property rights academicians make distinctions between rights of “access” (the right to enter an area) and “withdrawal” (the right to extract resources). Fisheries experts generally combine the concepts and simply refer to “access” to mean both the right to enter and the right to catch fisheries resources.

BACKGROUND INFORMATION AND REFERENCES

are created that motivate individuals to behave in ways that are rational for them, but produce irrational outcomes for the whole.

Regardless of their philosophical position about privatisation of resources *per se*, many experts, stakeholders and interested people agree that taking human behaviour into account – people's values, motivations and the incentives that will influence them – and the social ecology of fishing, will produce better fisheries outcomes. And that this *must* be part of the fisheries management mix (Beddington et al, 2007; Collet, 2007; Hilborn, 2007; Grafton et al, 2005; Hilborn et al, 2005; Symes, 1998).

Cultural and socio-political factors relating to wealth distribution, private property, income and power are important considerations (ICSF, 2007; Christy, 1982; Christy, 1996). But perhaps more fundamentally, in some parts of the world, are concerns about guaranteeing and defending the right to fish for food and the right of coastal communities to fish for a livelihood.

So while, to some, the mention of rights conjures up notions of economic efficiency or privatisation, these are clearly not the only considerations. A broader approach should focus the discussion on a fishery's specific context, and if creating some form of exclusivity is to be a part of the solution, only then focussing on the most appropriate forms of exclusive access that will enhance and encourage resource stewardship.

Important characteristics of rights

Having determined that some form of rights-based measure is an appropriate tool to use to pursue the ecological, social or economic objectives of a fishery, it is important to understand the characteristics of rights in order to choose the most appropriate attributes and to make sure the rights are as well defined as possible.

A comprehensive review of the fisheries literature reveals that there are six important characteristics of rights-based measures (see Scott, 1989; Scott, 2000; Hatcher & Frost, 2003; Grafton et al, 2005; OECD, 2006). These characteristics and how they are combined will influence how people use the rights or privileges, the outcomes and benefits that can be expected and how much the rights could be valued or cost.

1. Exclusivity – this means how well the right or privilege restricts the inputs to (the fishing effort), and/or the outputs (the catch extracted) from, and/or the area of, the fishery and restricts the ability of others to use the resource. This can help reduce the race for fish.

2. Duration – how long the right exists, for example it may be valid for one season, in perpetuity or any length of time in between. The longer a right exists, the more security it offers to offset investments made by fishers.

3. Transferability – whether the right may be leased, traded, sold or bequeathed to another party. This can help achieve efficient allocation of rights or privileges and create assets.

4. Divisibility – whether the right may be partitioned into smaller parts (eg, must quotas always be linked to a vessel, or may they be separated; or can an area be divided into smaller areas). This can help improve adaptability to changes in fishery circumstances.

5. Quality of title (or security) – how well the right is legally or formally defined and recognised (and therefore how enforceable it may be). This can help increase certainty for fishers and reduce risks associated with fishery access.

6. Flexibility – how well the right accommodates changes in resources or owner circumstances to enable the right holder to adjust their structural, fishing and production operations to match their circumstances.

Each of these characteristics can play an important role in helping to deliver fisheries management outcomes. They are interrelated and form what is called a “bundle” of rights, that together help achieve fisheries management objectives. The more of a particular characteristic that is present, the “fuller” the right is said to be. So some combinations might encourage structural adjustment and investment in a fishery, while others may focus the fishers on the efficient use of existing fishing capacity.

The trade-offs between characteristics of rights and how they are bundled should be explicit and informed. Reducing any of a right's attributes means a trade-off of some level of economic efficiency. This is a perfectly acceptable choice for governments, fisheries managers and/or stakeholders to make, as long as the choice is informed by, and be consistent with, other social, ecological or economic objectives. (Grafton et al, 1997; OECD, 2006)

What kinds of rights are there?

Exclusive use rights or access privileges take many forms of entitlement and responsibility, but can generally be categorised into: **community**, **individual** or **territorial**. They can be based on input, output or area based controls.

Input controls characterise rights or privileges

BACKGROUND INFORMATION AND REFERENCES

based on fishing effort, or the inputs to the fishery that will control fishing mortality. For example, pot, trap or hook numbers, gear units calculated by numbers of nets, length of net, headrope or footrope length, vessel size, days at sea, or other effort units based on time, fishing method or vessel catching capacity. These may or may not be transferable, divisible, flexible, etc.

Output controls characterise rights based on dividing up the allowable catch from the fishery. Usually based on species or stocks, examples include individual transferable quotas (ITQs), linked to a named individual or company; non-transferable quotas (IQs); vessel quotas (IVQs), a portion of the catch linked to a named vessel; or other ways of dividing catch shares. These too may or may not be transferable, divisible, flexible, etc.

Community rights, based on either input or output controls, can take the "I" out of ITQ or tradable effort unit. "*In true community property situations, use rights are shared co-equally and are exclusive to a defined group of people*" (Kalland, 1999, after McKay and Acheson, 1987). It is possible to create Community Tradable Quotas or Community Quota Entities where groups of fishermen agree how to share the fish or the effort units between them and individuals can concentrate on reducing costs, improving the quality of their catch and adapting to market conditions (Ecotrust, 2004; Hilborn et al, 2005; Pauly, 1996). Examples include the UK's Producer Organisations, where cooperatives were formed to allocate catch shares internally, creating a quasi-ITQ system (Arnason, 2002). In the US, vessel owners in the pollock and hake fisheries also formed cooperatives to allocate quotas (now called "Limited Access Privilege Programs", or LAPPs) internally after initial allocations by the government (Arnason, 2002 and Hilborn et al, 2005).

A variation on the idea of rights being allocated initially to group entities includes the Dutch flatfish fishery ITQ system. Here, individuals are allocated ITQs, but Management Groups facilitate the leasing and trading of individual quota shares, and have co-management responsibilities including enforcement of quota regulations (Arnason, 2002 and Smit, 2001).

Territorial Use Rights Fisheries (TURFs), as the name suggests, define spatial units for fisheries activity, often in inshore or coastal environments. TURFs can be allocated to individuals, groups or communities. And they may or may not be transferable, divisible, flexible, etc.

The features of the fisher community or the fishery can determine whether TURFs are an appropriate tool. For example, the resources may be sedentary, or there may be a particular biome to manage (eg,

coral reef). The spatial scale of the fishery is important, too large and it may be difficult to protect against invasion from non-TURF participants (Christy, 1982). Or there may be fixed gear in use which might lend itself to a TURF approach. (Christy Jr, 1982) Another consideration is the number of people. If contemplating a community-based TURF, to whom it will be allocated? Evidence suggests that the smaller the number the greater likelihood of realising the benefits. (Christy Jr, 1982; Cancino et al, in press)

Japan's TURF system and institutional structure for managing near-shore sedentary and mobile fish fisheries have evolved over centuries from the feudal era (Kalland, 1999; Cancino et al, in press). While TURFs were implemented in Chilean artisanal fisheries relatively recently in the 1990s for benthic invertebrates. Both implement forms of co-management, as well as allocate the resources within well defined spatial units to communities, based on allowable catches set by government. (See Castilla, 1998, Cancino et al, in press; and Hilborn et al, 2005).

Granting territorial rights provides a form of wealth to fishing communities and excludes fishers who are not community members. Indeed, as well as Japan, Chile and Oceania, exclusive fishing territories at local levels are found in developed and developing countries in the Mediterranean, the US, Africa, Europe and other countries in South America – i.e., all over the world (Kalland, 1999). This approach is advocated by some as a way of enshrining fisheries commons for small scale, long established traditional inshore or coastal fishers into a form of community property, as opposed to individual property (ICSF, 2007). Some sound a note of caution, suggesting the need to back such moves with appropriate levels of enforcement, especially where there are conflicts between artisanal or small scale fishers and commercial fishers using more intensive fishing methods (Christy, 1996; ICSF, 2007).

Theory versus practice

There are a great many published studies that have examined whether rights or privileges can deliver the intended economic benefits, and whether they bring social and ecological benefits as well. For a comprehensive selection see the references and background documents listed at the end of this position paper.

Studies have shown that impacts of rights-based measures can be detected to some extent within the complexities of the management system. Responses to the introduction of rights vary depending on the social, economic and ecological context of the fishery. Their impacts, whether positive or negative, need to be judged according to

BACKGROUND INFORMATION AND REFERENCES

the objectives or original intent for their introduction.

Without commenting on whether these are positive or negative outcomes, some studies reveal that: vessel numbers can decrease with higher catches per remaining vessel, employment may decrease or be displaced to other fisheries, economic efficiency of the fishery as whole may increase, consolidation and corporatisation of rights can occur and there can be changes to fishing and handling practices by fishers designed to maximise returns. The benefit or otherwise of these outcomes can only be determined by thorough socio-economic and biological assessment.

In many fisheries with strong (well-defined) rights or access privileges, fishers have been known to advocate for reductions in catches or constant catch scenarios, rather than increases because they recognise that higher stock sizes can result in benefits such as lower fishing costs, while higher catches can lower the price they get for their fish (Hilborn et al, 2005).

On the other hand, if rights-based measures are not sufficiently defined in conjunction with other more conventional measures to control fishing mortality or other market-based schemes, incentives may not exist to minimise bycatch or habitat damage (Beddington et al, 2007). Also, the rights themselves could lead to high grading, discarding and mis-reporting of catches (ICSF, 2007). Indeed, if the rights are not specified at the appropriate spatial scale, even the target stocks may be subject to the displacement of effort into areas or sectors not subject to the rights-based measures (Grafton et al, 2005).

In some instances, such as in the ocean-going fishery out of Lakes Entrance, in the state of Victoria, south east Australia, 'individualising' rights and making them tradable has eroded the sense of community and healthy competition amongst smaller scale fishers, replacing it with disunity and community fragmentation (Dwyer & Minnegal, 2006). Whereas, in other cases such as in the Dutch flatfish fishery, fishers reported they were working collectively to manage their quota holdings and were happy with higher levels of certainty, protection against other vessels, more tranquillity in their sector and that they were making more money (Smit, 2001; Arnason, 2002).

Some TURFs are more successful than others. In Japan, Cancino et al (in press) report that the spectrum of internal self management approaches is broad, resulting in some operating a closed 'race for fish', while others are able to implement comprehensive time and effort-based rules. Kalland (1999) reports that studies from Japan suggest that the presence of territories are more effective in

adding the management of demersal species rather than pelagic fish. In Chile the parts of the artisanal sector that have implemented Management and Exploitation Areas (a form of TURF) for benthic shellfish resources are reported to have improved knowledge of stocks, improved marketing practices, including product quality and supply, and strengthened fishermen's organisations. Researchers concluded that the TURF system provides the right incentives to prevent overfishing (Hilborn et al, 2005).

In 2007 a US-based NGO, Environmental Defense, released the report "*Sustaining America's Fisheries and Fishing Communities: An Evaluation of Incentive-Based Management*" which investigated the use of rights-based measures in ten US and shared stock US-Canadian fisheries (Anon, 2007). The study, based on data from before and after the implementation of rights-based measures, revealed that fisheries that used 'catch shares', also called 'Limited Access Privilege Programs' (LAPPs), were catching within their limits, compliance was on the increase, there were improvements in science and monitoring, reductions in bycatch, reduced impacts on habitat, improved crew safety and higher revenues per vessel. The introduction of catch shares changed the business of fishing: job losses left fewer people employed, but those who remain now have more stable jobs; and, the viability of some smaller scale operations was reduced (Anon, 2007). Some concentration and consolidation of LAPPs occurred, but some of the later designed LAPPs mitigated against this happening by limiting the total percentage a single owner could acquire and hold in order to preserve small-scale and community ownership (Anon, 2007). Environmental Defense is now actively campaigning for the introduction of LAPPs in US fisheries. Campaign aims have been aided by the re-authorisation of the US's fisheries law (Magnusson-Stevens Act) in 2006 which enables Councils to develop programmes of 'privileges' in fisheries they manage (Anon, 2007).

Rights-based measures fall short of delivering positive outcomes when:

- o they are treated as the only fix to all a fishery's problems;
- o they are treated as the only way to meet a fishery's interrelated ecological, economic or social objectives;
- o the design features (how characteristics are bundled) are not sufficiently linked to the fishery's management objectives; or
- o the implementation processes and the extent to which fishing communities, individual fishers or fishing and post-harvest industry representatives participated in their design and allocation were insufficient.

ANNEXE

BACKGROUND INFORMATION AND REFERENCES

According to Symes (1998) the granting of well-defined rights or privileges is reconcilable with strong regulation in fisheries, perhaps even necessary. And it is not a forgone conclusion that the social ecology of fishing communities will always be eroded by granting clearer rights.

While the evidence is equivocal, and rights are not the panacea some would have us believe, there is however, promising evidence that when closely coupled with other tools in a holistic management regime for the fishery, better defined rights can provide positive incentives for fishers and fishing communities.

Safeguards in the design process, developed intentionally from an informed basis, can be implemented to protect against undesirable outcomes.

(For further reading see: Anon, 2007, Arnason, 2002; Aslin et al, 2001; Beddington et al, 2007; Cancino et al, in press; Castilla & Fernandez, 1998; Degnbol et al, 2006; Dwyer & Minnegal, 2006; Ecotrust, 2006; Grafton et al, 2005; Grafton, 1996; Hilborn, 2007; Hilborn et al, 2005; ICSF, 2007; Pearse & Walters, 1992; Smit, 2001; Squires et al, 1998; Symes, 1998.)

References and background documents relating to this position

- ACSF (2007) *Sizing up. Property rights and fisheries management: a collection of articles from SAMUDRA Report*. International Collective in Support of Fishworkers, India. 112pp
- Anon (2007) *Sustaining America's fisheries and fishing communities: an evaluation of incentive-based management*. Environmental Defense, New York. 36pp
- Arnason, R. (2002) *A review of international experiences with ITQs*. Annex to: Future options for UK fish quota management. CEMARE Report 58. University of Portsmouth, UK. 71pp
- Aslin, H.J. and R.D. Connor, M. Fisher (2001) *Sharing in the catch or cashing in the share? Social impacts of Individual Transferable Quotas and the South East Fishery*. Bureau of Rural Sciences, Canberra, Australia. 115pp
- Aswani, S. (2005) Customary sea tenure in Oceania as a case of rights-based fishery management: Does it work? *Reviews in Fish Biology and Fisheries*: **15**, 285-307
- Beddington, J.R. and D.J. Agnew, C.W. Clark (2007) Current problems in the management of marine fisheries. *Science*: **316**, 1713-1716

- Ben-Yami, M. (2007) *Hijacked by neoliberal economics*. In: ACSF (2007) *Sizing up. Property rights and fisheries management: a collection of articles from SAMUDRA Report*. International Collective in Support of Fishworkers, India. Pp: 34-40
- Cancino, J.P and H. Uchida and J.E. Wilen (in press) TURFs and ITQs: Coordinated vs. decentralised decision making. Submitted to *Marine Resource Economics*. 32pp (accessed on 14 July 2007) <http://www.econ.ubc.ca/munro/turfitq.pdf>
- Castilla, J.C and M. Fernandez (1998) Small-scale benthic fisheries in Chile: on co-management and sustainable use of benthic invertebrates. *Ecological Applications*: **8**(1) S124-S132
- Christy, F.T. Jr. (1982) *Territorial use rights in marine fisheries: definitions and conditions*. FAO Fisheries Technical Paper No. T277. FAO, Rome. 10pp
- Christy, F.T. Jr (1996) The death rattle of open access and the advent of property rights regimes in fisheries. *Thalassorama. Marine Resource Economics*: **11**, 287-304
- CEC (2007) *Communication from the Commission on rights-based management tools in fisheries*. COM(2007) 73 Final. Commission of the European Communities, Brussels. 7pp
- CEVIS (2007) *Comparative Evaluations of Innovative Solutions in European Fisheries Management – Project website* accessed on 8 July 2007 <http://www.ifm.dk/cevis/>
- Collet, S. (2007) Values at sea, value of the sea: mapping issues and divides. Pursuing the true value of people and the sea. *Social Science Information*: **46**(1), 35-66.
- Degnbol, P. and H. Gislason, S. Hanna, S. Jentoft, J.R. Nielsen, S. Sverdrup-Jensen and D.C. Wilson (2006) Painting the floor with a hammer: technical fixes in fisheries management. *Marine Policy*: **30**, 534-543
- del Valle, I. and E. Hoefnagel, K. Astorkiza and I. Astorkiza (2006) *Rights-based fisheries management*. In: The Knowledge Base for Fisheries Management. L. Motos and D.C. Wilson (Eds). Pp 55-83
- Dwyer, P.D. and M. Minnegal (2006) The good, the bad and the ugly: risk, uncertainty and decision-making by Victorian fishers. *Journal of Political Ecology* **13**, 1-23
- Ecotrust (2004) *Catch-22: conservation, communities and the privatization of B.C. fisheries. An economic, social and ecological impact study*. Ecotrust Canada and Ecotrust USA. 47pp
- Grafton, R.Q (1996) Individual transferable quotas: theory and practice. *Reviews in Fish Biology and Fisheries* **6**, 5-20
- Grafton, R.Q., and R. Arnason, T. Bjørndal, D. Campbell, H.F. Campbell, C.W. Clark, R. Connor, D.P. Dupont, R. Hannesson, R. Hilborn, J.E. Kirkley, T. Kompas, D.E. Lane, G.R. Munro, S. Pascoe, D. Squires, S.I. Steinshamn, B.R. Turriss, and Q. Weninger (2005) *Incentive-based approaches to sustainable fisheries*. Economics and Environment Network (EEN) Working Paper 0508. Australian National University. 43pp
- Grafton, R.Q and D. Squires, K.J. Fox (1997) *Private property and economic efficiency: a study of a*

ANNEXE

BACKGROUND INFORMATION AND REFERENCES

- common-pool resource*. Working Paper, Ottawa
Département des Sciences Economiques. Later
published in: *Journal of Law and Economics*: **43** (2),
679-713
- Grieve, C (2001) *Reviewing the Common Fisheries Policy:
EU fisheries management for the 21st century*.
Institute for European Environmental Policy, London.
35pp
- Grieve, C. and K. Short (2007) *Implementing ecosystem-
based management in marine capture fisheries: case
studies from WWF's marine ecoregions*. WWF-
International. 75pp
- Hatcher, A. and H. Frost (2003) *The introduction of rights-
based management in fisheries*. Discussion Paper for
the European Commission. 21pp
- Hardin, G. (1968) The tragedy of the commons. *Science*
162, 1243-1248
- Hilborn, R. (2007) Moving to sustainability by learning
from successful fisheries. *Ambio* **34** (4): 296-303
- Hilborn, R. and J.M. (Lobo) Orensanz and A.M. Parma
(2005) Institutions, incentives and the future of
fisheries. *Philosophical Transactions Royal Society B*:
360, 47-57
- ICSF (2007) *Sizing up. Property rights and fisheries
management: a collection of articles from SAMUDRA
Report*. International Collective in Support of
Fishworkers, India. 112pp
- Iudicello, S. and M. Weber and R. Wieland (1999) *Fish,
markets and fishermen: the economics of overfishing*.
Center for Marine Conservation. Earthscan
Publications, London. 192 pp
- Kalland, A. (1999) *Mare closum as a management tool in
fishing societies*. In: Oglethorpe, J. (Ed.) *Tenure and
Sustainable Use*. SUI Technical Series Vol. 2. IUCN,
Gland, Switzerland. Pp 119-128
- Kulmala, S. and M. Lindroos (2006) *Sharing the Baltic
salmon*. Paper for the International Conference on
Sharing the Fish, March 2006, Perth, Western
Australia. 10pp
- Kurién, J. (2000) *Common property rights: re-establishing
them for a secure future for small scale fisheries*. In: .
In: Shotton, R. (Ed.) *Use of property rights in fisheries
management*. FAO Fisheries Technical Paper No.
404/1. Rome, FAO. Pp: 288-293
- Neher, P.A. (1996) Fishing quota quality and fishery
performance. Points of View. *Reviews in Fish Biology
and Fisheries* **6**, 113-116
- OECD (2006) *Using market mechanisms to manage
fisheries: Smoothing the Path*. Executive Summary:
11-16. OECD, Paris
- Pauly, D. (1996) ITQ: the assumptions behind a meme.
Points of View. *Reviews in Fish Biology and Fisheries*:
6, 109-112
- Pearse, P. and C.J. Walters (1992) Harvesting regulation
under quota management systems for ocean
fisheries: decision making in the face of natural
variability, weak information, risks and conflicting
incentives. *Marine Policy* May 1992: 167-182
- Scott, A.T. (1989) *Conceptual origins of rights based
fishing*. In: Neher, P.A., Arnason, R. and N. Mollett
(Eds.) *Rights Based Fishing*. Proceedings of the
NATO Advanced Research Workshop on Scientific
Foundations for Rights Based Fishing, Reykjavik,
Iceland, June 27-July 1, 1988. Kluwer. Pp: 11-38.
- Scott, A.T. (2000) *Introducing property in fisheries
management*. In: Shotton, R. (Ed.) *Use of property
rights in fisheries management*. FAO Fisheries
Technical Paper No. 404/1. Rome, FAO. Pp: 1-13
- Sharing the Fish Conference (2006) Perth, Western
Australia. Conference papers and abstracts.
<http://www.fish.wa.gov.au/docs/events/ShareFish/papers>
- Smit, W. (2001) *Dutch demersal North Sea fisheries:
initial allocation of flatfish ITQs*. In: Shotton, R. (Ed.)
*Case studies on the allocation of transferable quota
rights in fisheries*. FAO Fisheries Technical Paper.
No. 411. Rome, FAO. 373pp.
- Squires, D. and H. Campbell, S. Cunningham, C.
Deweese, R.Q. Grafton, S.F. Herrick Jr., J. Kirkley, S.
Pascoe, K. Salvanes, B. Shallard, B. Turriss and N.
Vestergaard (1998) Individual transferable quotas in
multispecies fisheries. *Marine Policy* **22** (2): 135-159
- Sumaila, U.R. and Bailey, M. (2006) *Not even individual
transferable quotas (ITQs) are a panacea. Designing
an ideal ITQ management system*. Internal WWF
paper, unpublished.
- Sumaila, U.R. and R. Watson (2002) *The rights to fish – a
critique of ITQs*. In: *Ecosystem-Based Management
for Marine Capture Fisheries*. T. Ward, D. Tarte, E.
Hergerl and K. Short (Eds). WWF-Australia, Sydney.
80pp
- Sutinen, J. and M. Soboil (2001) *The performance of
fishery management systems and the ecosystem
challenge*. Paper for the Reykjavik Conference on
Responsible Fisheries in the Marine Ecosystem,
Iceland, 1-4 October 2001. 18pp
- Symes, D. (1998) *Towards a property rights framework
for the management of Europe's fisheries*. Chapter
21: 257-264. In: *Property Rights and Regulatory
Systems in Fisheries*. Symes, D. (Ed.) Fishing News
Books, Oxford.
- Ward, T. and D. Tarte, E. Hergerl and K. Short (2002)
*Ecosystem-based management for marine capture
fisheries*. WWF-Australia, Sydney. 80pp
- Wilson, D.C. and I. del Valle, R. Jessen and L. Motos
(2006) *Introduction: the knowledge base as process*.
In: *The Knowledge Base for Fisheries Management*.
L. Motos and D.C. Wilson (Eds). Pp 1-25



EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR FISHERIES AND MARITIME AFFAIRS

Resources and relations with stakeholders

Interinstitutional relations and dialogue with the sector, programming and evaluation

Brussels,
D(2007)

28.03.2007 D 10626

**NOTE TO MR. E. MASTRACCHIO
DIRECTOR FISH/E**

**Subject: ACFA's Advice on the Commission Communication regarding the
Rights-based management tools in fisheries (COM(07)73 final)**

I hereby enclose the Advice adopted by ACFA on the above mentioned Communication.

Emmanouil Papaioannou
Head of Unit and ACFA's Secretary

Enclosure: ACFA's Advice in three languages

c.c.: Maganagement Committee
Mr. Spagnolli
Mr. Peña Castellot
Mr. Lindebo
Mr. W. Saab (Cabinet Mr. Borg)

Advisory Committee on Fisheries and Aquaculture

EP(07)129F

Brussels, 28 September 2007

ADVISORY COMMITTEE ON FISHERIES AND AQUACULTURE OPINION ON THE COMMISSION COMMUNICATION REGARDING THE RIGHTS-BASED MANAGEMENT TOOLS IN FISHERIES (COM(07)73 FINAL)

1. ACFA notes with interest the above-referenced Communication, with which the Commission is opening a debate on how different fishing rights (individual quotas, licences, days at sea, etc.) are used within the EU, the idea being to list the best practices in the different Member States as well as any mis-management of the resource, so that the establishment of more efficient systems can be considered.
2. The interesting seminar organised by the Commission on May 14th and 15th on the economic dimensions of the fishery has addressed certain underlying questions in the Communication and several interventions made have shown that there are still differences of opinion regarding some of the issues.
3. The very fact of tackling today this subject, which was already brought up when setting the roadmap of the CFP reform in 2002, which called for "a discussion on the introduction in Community and/or national fishery management systems of dispositions with regard to (...) negotiable (individual or collective) fishing rights", clearly shows that the Commission is little or poorly informed of the wide variety of fisheries management systems applied in the different Member States which, without any doubt, is a strength. Concerns about their efficiency and transparency referred to by the Commission, which can hamper the economic situation of the different segments of the Community fishing fleet, as well as the state of stocks and ecosystems, should not, according to us, be seen as a consequence of the existing diversity of the systems but rather result from their implementation and their monitoring.
4. In this respect, ACFA notes, with interest, the call for tender that has just been launched by the Commission on studies and pilot projects for carrying out the CFP, in particular the lot regarding an analysis of existing rights-based management instruments in the Member States, including the setting up of best practices. Such an exercise would allow to draw up a complete inventory of what exists everywhere in Europe, especially in view of the objectives of the CFP which we support, - the conservation and sustainable exploitation of the fishery resources while taking into account the economic, social and environmental aspects in a balanced way. Moreover, for the documentation process of existing situations, a particular attention should be devoted to the experiences of the artisanal fishing sector in the various Member States.
5. ACFA has noted that the Commission does not intend to interfere in the choice and implementation of one or the other fishing management system, which are to remain within the competence of the Member States and the prerogatives and functions they grant to enterprises or producer organisations, especially concerning the methods of attribution of fishing opportunities, their possible exchanges, the management of the effort, while also taking into account the flexibility to foresee in function of the type of fisheries (multi-species or not), the diversity of activities, etc.

6. In line with the CFP management objectives, a way to promote sustainable fisheries would be to give priority, for access to resources, to fishing units that fits "sustainable development" criteria to be identified with the stakeholders concerned. These criteria could include, for example, the use of selective fishing techniques, low fuel consuming techniques (one of the costs that most affect the running costs and profitability of the fishing enterprises), etc
7. Among the particularly sensitive subjects linked to the introduction of management instruments based on fishing rights, and hence to the allocation of individual fishing rights to fishermen and fishing enterprises, the Commission rightly points the finger at that of **relative stability**.
8. Should in future quotas become tradable, or their final ownership transferable between Member States, the portions that these represent of the TAC of any one species will no longer be constant, as they are today by virtue of the principle of relative stability which could therefore be questioned. The opinions within the professionals represented in ACFA are diverging regarding this issue. Some members indeed believe that this is an essential pillar of the CFP that cannot be altered, others esteem that the relative stability cannot be considered immutable, insofar as the state of the European fishing fleet has evolved and continues to evolve considerably and the effort management is presently regulated.
9. If it is a question simply of exchanging quotas between Member States or between producer organisations within one and the same State, as Community regulations provide for and which seem sufficiently flexible and satisfying to us, relative stability should not be seriously damaged, certainly not from a political point of view. In this context, ACFA would like to start a discussion about the opportunity to exchange quotas between member states and other coastal states on an annual basis.
10. What seems clear is that, as the Commission indicates in the regulations on quota amendments¹, each year in certain fisheries and fishing areas in the EU, major discrepancies arise between the quotas assigned to the Member States and the catches they produce. This applies to demersal as well as pelagic species. These large-scale imbalances, which in some cases result in "exceeded quotas" and in other cases "quota deficits", affect the majority of Member States depending on the fishery and the fishing area. It is the opinion of Europêche/COGECA that the Commission should undertake a study which, maintaining the acquired rights derived from the relative stability, offers possible solutions to the problem.
11. Concerning the **transferability of fishing rights**, given the high costs of acquiring such rights, there is a danger, which needs to be addressed, of these becoming concentrated in the hands of a small number of large companies, which would a priori be incompatible with certain Community principles such as for example the free access to Community waters and the relative stability. It would also be at the detriment of small coastal fishing communities which would find themselves edged out of the market, with consequences in terms of employment and geographical redistribution of the fishing activity and the coastal population that depend on it that this might entail. It is therefore necessary to ensure that checks and balances are applied in any rights-based systems of fisheries management to prevent the concentration of ownership and the associated harmful environmental, social and economic impacts and to protect the right of fishermen to access the resources.
12. **Allocating fishing rights** creates a right of usufruct on the resource, a right to fish which logically lasts for a specific period of time or can be attributed on the basis of a reference. For some professional organisations represented in ACFA, the sole practicable basis for this allocation should be the previously existing situation. This opinion is not shared by others, for whom it would have the effect of creating an

¹ Commission Regulations nr. 776/2005, 742/2006, 609/2007

undesirable permanent source of income for the first entrants into the system. It would be more appropriate to base the fishing rights on a scientific report analysing current capacities and quotas of Member States. In any case, beyond an in-depth analysis of the practices and experiences in terms of cost/efficiency in the different Member States, fishing rights should, according to us, be granted in the first place to the enterprises that practise a economically, socially and environmentally sustainable fishery.

13. The problems linked to the establishment of management systems based on the fishery rights, in particular the fishing quotas, and to the **discards** are addressed in the recent Commission Communication to the Council and the European Parliament on a policy to reduce unwanted by-catches and eliminate discards in European fisheries (COM(07)136final). ACFA has adopted a document containing answers to a questionnaire that was recently addressed by the Services of the Commission and its members.

Comité Consultivo de Pesca y Acuicultura

EP(07)129F

Bruselas, 28 de septiembre de 2007

Dictamen del Comité Consultivo de Pesca y Acuicultura (CCPA) sobre la Comunicación de la Comisión relativa a los instrumentos de gestión basados en los derechos de pesca (COM(07)73final)

1. El CCPA toma nota del interés de la Comunicación enunciada más arriba por la que la Comisión abre el debate sobre cómo se utilizan los distintos derechos de pesca (cuotas individuales, licencias, días en el mar, etc.) en la UE con intención de elaborar un inventario de las mejores prácticas vigentes en los distintos Estados miembros y de las consecuencias negativas en la gestión de los recursos, con objeto de establecer unos sistemas más eficaces.
2. El seminario que la Comisión organizó los días 14 y 15 de mayo pasados sobre las dimensiones económicas de la pesca fue muy interesante y abordó ampliamente algunos de los temas que subyacen en la Comunicación y varias intervenciones revelaron que aún existen opiniones divergentes sobre determinados temas.
3. El hecho de abordar hoy un tema tan complejo, que ya había sido evocado en el calendario de aplicación de la reforma de la PPC en 2002, y que invitaba a “discutir las posibilidades de introducir en los sistemas de gestión de la pesca comunitario y/o nacionales disposiciones que regulen un régimen de derechos de pesca comerciables (...) (individuales o colectivos)”, demuestra claramente que la Comisión conoce poco o mal la enorme variedad de sistemas de gestión de la pesca aplicados en los distintos Estados miembros, los cuales constituyen indudablemente un elemento de valor. Si bien su grado de eficacia y su transparencia, subrayada por la Comisión, pueden pesar sobre la situación económica de los distintos segmentos de la flota pesquera comunitaria, así como sobre la situación de las poblaciones de peces y los ecosistemas, esto no se le ha de atribuir, según nuestro parecer, a la variedad de sistemas existentes sino más bien a la implementación y al control de los mismos.
4. Al respecto, el CCPA toma acta con interés de la adjudicación publicada recientemente por la Comisión relativa a estudios y proyectos pilotos para la implementación de la PPC, y en particular de su vertiente relativa un análisis de los instrumentos de gestión basados en los derechos de pesca en los distintos Estados miembros incluyendo la realización de un Código de buenas prácticas. Tal ejercicio permitirá establecer un inventario completo de los instrumentos que existen en Europa, en particular de cara con los objetivos de la PPC que apoyamos, a saber, la conservación y la explotación sostenible de los recursos haliéuticos, teniendo en cuenta los aspectos económicos, sociales y medioambientales de forma equilibrada. Además, como documentación de la situación actual, se debería acordar una atención particular a la experiencia de la pesca artesanal en los diferentes estados miembros.
5. El CCPA toma nota de que la Comisión no tiene la intención de inmiscuirse en la elección y puesta en marcha de tales sistemas de gestión de la pesca que deben seguir siendo competencia única de los Estados miembros y de las prerrogativas y funciones que conceden a las empresas u organizaciones de productores en materia de métodos de asignación de las posibilidades de pesca, los posibles intercambios de las mismas y la gestión del esfuerzo, teniendo también en cuenta la flexibilidad necesaria en función de los distintos tipos de pesquerías (multiespecíficas o no, diversidad de artes, etc.).

6. En línea con los objetivos de gestión de la PPC, una forma de favorecer la pesca sostenible sería dar prioridad a ciertas unidades de pesca en el acceso a los recursos y esto en función de unos criterios de "desarrollo durable" que deberían ser identificados con el conjunto de actores interesados. Estos criterios podrían incluir, por ejemplo, la utilización de técnicas de pesca selectiva, de economía en carburantes (uno de los costes que afecta en gran medida la explotación y la rentabilidad de las empresas de pesca), etc.
7. Entre los temas especialmente sensibles ligados a la instauración de los instrumentos de gestión basados en los derechos de pesca, y por ende la asignación de derechos de pesca individuales a los pescadores y a las empresas, la Comisión señala con el dedo, y con razón, a la **estabilidad relativa**.
8. Si las cuotas pudiesen, en el futuro, ser objeto de transacción o de transferencia de propiedad definitivos entre Estados miembros, su parte correspondiente con respecto al TAC de una especie dada dejaría de ser constante como lo es hoy en virtud del principio de la estabilidad relativa, que podría así ponerse en tela de juicio. Con respecto a este punto, las opiniones siguen divididas en el seno del CCPA: algunas organizaciones consideran que la estabilidad relativa es un factor esencial de la PPC que no puede ser alterado, otras opinan que no ha de ser considerada como un elemento inmutable ya que el estado de la flota de pesca comunitaria ha evolucionado y sigue cambiando considerablemente y que la gestión del esfuerzo está reglamentada hoy en día.
9. Si sólo se trata de intercambiar cuotas entre Estados miembros, como de hecho prevé la reglamentación comunitaria, la estabilidad relativa no debería tambalearse, por lo menos desde el punto de vista político. Esta reflexión haría que hubiera dos varas de medir. En este contexto, el CCPA desea abrir la discusión sobre la oportunidad de transferir las cuotas en base anual entre Estados miembros de la UE y los demás Estados costeros.
10. Lo que parece claro es que, tal como señala la Comisión en sus Reglamentos sobre adaptación de cuotas¹, todos los años se producen en algunas pesquerías y en algunas zonas de pesca comunitarias, desfases importantes entre las cuotas asignadas a los Estados miembros y las capturas efectuadas por los mismos, tanto para especies demersales como para especies pelágicas. Estos importantes desequilibrios, que en algunos casos producen "excedentes de cuotas" y en otros casos "cuotas deficitarias", afectan a la mayoría de los Estados miembros, en función de cada pesquería y de cada zona de pesca. En opinión del CCPA, la Comisión debería acometer un estudio que, manteniendo los derechos adquiridos derivados de la estabilidad relativa, ofrezca posibles soluciones a este problema.
11. En lo que respecta a la **transferibilidad de los derechos de pesca**, y como el coste de la adquisición de derechos es en algunas ocasiones elevado, podemos correr el riesgo, y conviene pues contrarrestarlo, de que se concentren en manos de unas pocas empresas de gran tamaño, lo cual sería en principio incompatible con algunos principios comunitarios como por ejemplo el libre acceso a las aguas comunitarias y la estabilidad relativa. Esto iría en contra de las pequeñas comunidades pesqueras del litoral que se verían así excluidas del mercado, con las distorsiones de competencia y las consecuencias que ello podrá conllevar en términos de empleo, ordenación del territorio, reparto geográfico de la actividad de pesca y de la población litoral que de ella depende. Es necesario, por lo tanto, asegurar que se introduzcan las medidas correctoras necesarias, cuya selección debería quedar a la discreción de los estados miembros, en todo sistema de derechos de pesca para evitar su concentración y el

¹ Reglamentos de la Comisión Nr. 776/2005, 742/2006, 609/2007.

impacto social, económico y medio ambiental negativo de los mismos, protegiendo así el derecho de los pescadores al acceso de los recursos.

12. Con la **concesión de los derechos de pesca** se crea un derecho de usufructo sobre los recursos, un derecho a pescar que, lógicamente, tiene una duración o puede atribuirse según una base de referencia. Según algunas organizaciones miembros del CCPA, la concesión sólo debería basarse en la anterioridad. Esta opinión no es compartida por aquellos que estiman que ésto generaría la creación de una renta indeseable para los primeros que entren en el sistema y que sería mejor basar los derechos sobre un informe científico que analizase las capacidades y las cuotas actuales de los Estados miembros. De hecho, más allá de la necesaria profundización de las prácticas y experiencias en términos de coste/eficacia llevadas a cabo en los diferentes Estados miembros, los derechos de pesca deberían ser objeto de una diferenciación según se trate de pesca de altura o de bajura.
13. Los problemas ligados a la instauración de los derechos de gestión basados en los derechos de pesca, en particular las cuotas de pesca, y a los **descartes**, se abordan en la última Comunicación de la Comisión al Consejo y al Parlamento Europeo relativa a la reducción de las capturas accesorias y a la eliminación de los descartes en las pesquerías europeas (COM(07)136 final). El CCPA ha adoptado un documento de respuestas a un cuestionario enviado recientemente por los Servicios de la Comisión a los miembros del CCPA.

Comité Consultatif de la Pêche et de l'Aquaculture

EP(07)129F

Bruxelles, le 28 septembre 2007

AVIS DU COMITE CONSULTATIF DE LA PECHE ET DE L'AQUACULTURE (CCPA) SUR LA COMMUNICATION DE LA COMMISSION RELATIVE AUX INSTRUMENTS DE GESTION FONDES SUR LES DROITS DE PECHE (COM(07)73FINAL)

1. Le CCPA prend acte avec intérêt de la Communication en objet, par laquelle la Commission ouvre un débat sur la manière dont les différents droits de pêche (quotas individuels, licences, jours de mer, etc.) sont utilisés au sein de l'UE, l'intention étant de dresser ainsi un état des lieux des meilleures pratiques en vigueur dans les différents Etats membres et des dysfonctionnements éventuels dans la gestion de la ressource, susceptibles de conduire à l'établissement de systèmes plus efficaces.
2. L'intéressant séminaire organisé les 14 et 15 mai derniers par la Commission sur les dimensions économiques de la pêche a largement abordé des questions sous-jacentes à la Communication et plusieurs interventions faites ont montré qu'il existe encore des clivages d'opinions sur certains sujets.
3. Le fait d'aborder aujourd'hui ce sujet complexe qui avait déjà été évoqué lors du calendrier de mise en œuvre de la réforme de la PCP en 2002, lequel invitait à « discuter de l'introduction dans les systèmes communautaires et/ou nationaux de gestion de la pêche de dispositions en matière de (...) droits de pêche (individuels ou collectifs) cessibles », démontre clairement que la Commission connaît peu ou mal la grande variété des systèmes de gestion de la pêche appliqués dans les différents Etats membres qui constitue sans nul doute une richesse. Leur degré d'efficacité et de transparence épinglé par la Commission et qui peut peser sur la situation économique des différents segments de la flotte de pêche communautaire, ainsi que sur l'état des stocks et des écosystèmes, ne saurait néanmoins, selon nous, être attribué à la diversité existante des systèmes mais plutôt résulter de leur mise en œuvre et de leur contrôle.
4. A cet égard, le CCPA prend acte avec intérêt de l'appel d'offres que vient de lancer la Commission sur des études et projets pilotes en vue de mettre en œuvre la PCP, particulièrement le lot relatif à une analyse des instruments de gestion fondés sur les droits dans les Etats membres y compris l'établissement de bonnes pratiques. Un tel exercice permettrait d'établir un inventaire complet de ce qui existe partout en Europe, notamment dans l'optique des objectifs de la PCP auxquels nous souscrivons, à savoir la conservation et l'exploitation durable des ressources halieutiques en tenant compte des aspects économiques, sociaux et environnementaux de manière équilibrée. De plus, en terme de documentation des situations existantes, une attention particulière devrait être accordée aux expériences de la pêche artisanale dans les différents états membres.
5. Le CCPA a bien noté que la Commission n'a pas l'intention de s'ingérer dans le choix et la mise en place de tels ou tels systèmes de gestion de la pêche qui doivent continuer de relever de la compétence des seuls Etats membres et des prérogatives et fonctions qu'ils accordent à des entreprises ou organisations de producteurs, notamment pour ce qui concerne les méthodes d'attribution des possibilités de pêche, leurs échanges éventuels, la gestion de l'effort, tenant compte aussi de la flexibilité à prévoir en fonction des typologies des pêcheries (multispécifiques ou non), de la diversité des métiers, etc.

6. Par ailleurs, en ligne avec les objectifs de gestion de la PCP, une façon de favoriser la pêche durable serait de donner la priorité en termes d'accès aux ressources, à certaines unités, en fonction de critères « de développement durable » à identifier avec l'ensemble des acteurs concernés. Ces critères pourraient inclure, par exemple, l'utilisation de techniques de pêche sélectives, économes en carburant (un des postes qui affectent fortement les coûts d'exploitation et la rentabilité des entreprises de pêche), etc.
7. Parmi les sujets particulièrement sensibles liés à l'instauration d'instruments de gestion fondés sur les droits de pêche, et donc d'allocation de droits de pêche individuels aux pêcheurs et aux entreprises, la Commission, à juste titre, pointe du doigt celui de la **stabilité relative**.
8. Si les quotas pourraient à l'avenir faire l'objet de transactions ou de transferts de propriété définitifs entre Etats membres, leur part respective par rapport au TAC d'une espèce donnée ne serait plus constante comme elle l'est aujourd'hui en vertu du principe de la stabilité relative qui pourrait ainsi être remis en cause. Sur ce point, les avis demeurent partagés parmi les professionnels réunis au sein du CCPA, certains membres estimant que la stabilité relative constitue un fondement essentiel de la PCP qui ne peut être altéré, d'autres jugeant qu'elle ne peut être considérée comme immuable, dans la mesure où l'état de la flotte de pêche en Europe a et continue d'évoluer considérablement et vu que la gestion de l'effort est à présent réglementée.
9. S'il s'agit simplement d'échanger des quotas entre Etats membres, comme le prévoit du reste la réglementation communautaire, la stabilité relative ne devrait pas être ébranlée, en tous cas pas d'un point de vue politique. Dans ce contexte, le CCPA souhaite entamer la discussion sur l'opportunité de transferts de quotas sur une base annuelle entre Etats membres de l'UE et autres Etats côtiers.
10. Il semble évident que, comme le signale la Commission dans ses règlements relatifs à l'adaptation des quotas¹, dans certaines pêcheries et zones de pêche communautaires, il existe des décalages importants chaque année entre les quotas alloués aux Etats membres et les captures effectuées par ceux-ci, tant pour les espèces démersales que pour les espèces pélagiques. Ces déséquilibres importants, qui dans certains cas entraînent « des excédents de quotas » et dans d'autres « des quotas déficitaires », affectent la plupart des Etats membres, selon la pêcherie et la zone de pêche. D'après le CCPA, la Commission devrait réaliser une étude qui, tout en maintenant les droits acquis découlant de la stabilité relative, offre des solutions possibles à ce problème.
11. S'agissant de la **transférabilité des droits de pêche**, en raison du coût parfois élevé d'acquisition de tels droits, le risque existe, et il convient de le maîtriser, qu'ils soient concentrés dans les mains d'un petit nombre de grandes entreprises, ce qui serait a priori incompatible avec certains principes communautaires comme par exemple le libre accès aux eaux communautaires et la stabilité relative. Cela irait au détriment des petites communautés de pêche côtière qui se verraient ainsi évincées du marché, avec les conséquences en termes d'emploi, d'aménagement du territoire et de redistribution géographique de l'activité de pêche et de la population littorale en dépendant que cela pourrait entraîner. Il est dès lors nécessaire d'assurer que des mesures correctives, dont le choix serait laissé à la discrétion des Etats membres, soient introduites dans tout système de droits de pêche pour prévenir leur concentration, les impacts sociaux, économiques et environnementaux négatifs de ceux-ci et protéger le droit des pêcheurs d'accéder à la ressource.
12. Par une **allocation des droits de pêche**, on crée un droit d'usufruit sur la ressource, un droit de pêcher qui logiquement a une durée ou peut être attribué sur une base de

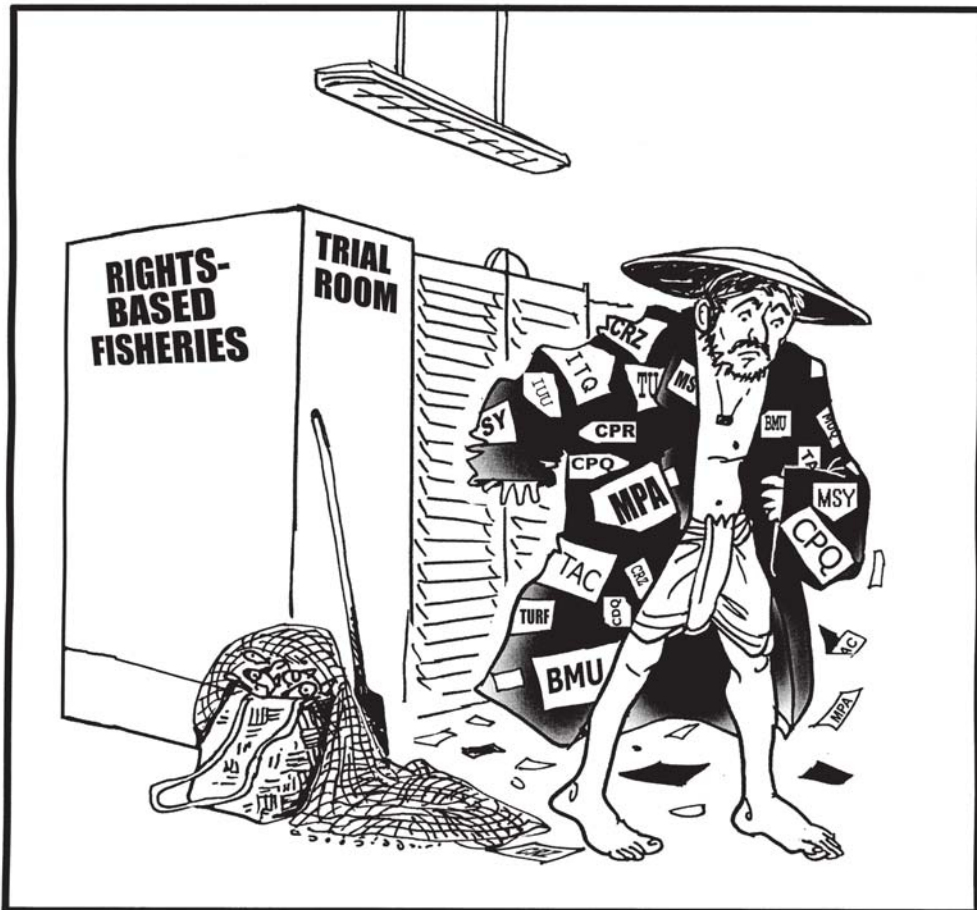
¹ Règlements n° 776/2005, 742/2006, 609/2007 de la Commission

référence. Selon certaines organisations membres du CCPA, l'allocation ne devrait être fondée que sur l'antériorité. Cet avis n'est pas partagé par d'autres qui estiment que cela engendrerait la création d'une rente indésirable pour les premiers entrants dans le système et qu'il convient davantage de baser les droits sur un rapport scientifique analysant les capacités et les quotas actuels des Etats membres. En tout état de cause, au delà d'un approfondissement nécessaire des pratiques et expériences en termes de coût/efficacité dans les différents Etats membres, les droits de pêche devraient faire l'objet d'une différenciation selon qu'il s'agit de pêche hauturière ou côtière.

13. Les problèmes liés à l'instauration de systèmes de gestion fondés sur les droits de pêche, en particulier les quotas de pêche, et aux *rejets* sont abordés dans la récente Communication de la Commission au Conseil et au Parlement européen relative à une politique visant à réduire les prises accessoires et à éliminer les rejets dans les pêcheries européennes (COM(07)136final). Le CCPA a adopté un document de réponses à un questionnaire récemment adressé par les Services de la Commission à ses membres.

Sizing Up

Property Rights and Fisheries Management:
a collection of articles from *SAMUDRA Report*



SAMUDRA Dossier

Sizing Up

Property Rights and Fisheries Management:
a collection of articles from *SAMUDRA Report*

International Collective in Support of Fishworkers
27 College Road, Chennai 600 006, India

Sizing Up

Property Rights and Fisheries Management:
a collection of articles from *SAMUDRA Report*

SAMUDRA Dossier**Published by**

International Collective in Support of Fishworkers (ICSF)
27 College Road, Chennai 600 006, India
Tel: +91 44 2827 5303 Fax: +91 44 2825 4457 Email: icsf@icsf.net
Website: <http://www.icsf.net>

March 2007

Edited by

KG Kumar

Designed by

Satish Babu

Printed at

Sri Venkatesa Printing House
Chennai 600 026, India

Copyright © ICSF 2007

ISBN 81-902957-6-4

While ICSF reserves all rights for this publication, any portion of it may be freely copied and distributed, provided appropriate credit is given. Any commercial use of this material is prohibited without prior permission. ICSF would appreciate receiving a copy of any publication that uses this publication as a source.

The opinions and positions expressed in this publication are those of the authors concerned and do not necessarily represent the official views of ICSF.

Contents

Preface	v
1. Feudalism at sea	1
2. Coastal resources for whom?	5
3. Flipped on its head?	10
4. Up against trawling	12
5. Redistributing wealth	16
6. Maori power	18
7. The twilight zone	23
8. Naturally ours	26
9. Jammed in Jambudwip	30
10. Hijacked by neoliberal economics	34
11. Towards artisanal fishing zones	41
12. The Holy Grail	42
13. Frustrating private agreements	49
14. The power of co-management	51
15. Go for it	53
16. Shifting gear?	56
17. Important yet marginalized	65
18. Empowering co-management	70
19. A meaningful beginning	75
20. Who's sharing the fish?	78
21. No one-size-fits-all approach	82
22. Fishing rights vs human rights?	83
23. Opening the tragedy?	87
24. The litmus test	92
25. Fulfilled, healthy, secure?	94
26. Private rights tragedy	97

Preface

Are fishing rights good, bad, necessary? Ichiro Nomura, Assistant Director General of the Food and Agriculture Organization of the United Nations (FAO) asserts in *SAMUDRA Report* No 44, the triannual publication of the International Collective in Support of Fishworkers (ICSF) (see pg. 82): “The FAO Secretariat has moved, beyond a doubt, on the matter of whether fishing rights are good or not. They are absolutely necessary and fundamental to the sustainability of the world’s fisheries resources”. This begs questions such as: Are fishery resources better conserved under a rights-based regime? What are the pros and cons of fishing rights in different parts of the world? What are the elements to look for in a fishing-rights regime, particularly in the context of developing countries? Do small-scale fishing communities benefit from different forms of fishing rights?

This dossier, a compilation of articles from various issues of *SAMUDRA Report* since 1996, seeks answers to these questions. It examines some of the approaches and types of fishing rights in the geographic contexts of Africa, Asia, North America (Canada), Europe and Latin America. Ranging from topics like artisanal fishing zones in India and Peru to individual transferable quota (ITQ) regimes in Iceland, New Zealand and Canada, most of these articles are written primarily from the perspective of small-scale fisheries, and coastal and inland fishing communities.

Some of the articles reflect the genuine apprehensions of small-scale fishing communities about ‘distributional inequities’, about exclusion and marginalization from the introduction of property rights that valorize capital over labour and community interests. Acquisitions of ITQs by corporations, argues Parzival Copes in his article (see pg. 5), would “destroy the viability of many smaller communities that do not have the financial resources to compete for the purchase of quotas and licenses.”

Einar Eythorsson, in an article on Iceland (see pg. 1), while not denying that there are economic benefits from ITQs, raises the question of “who is enjoying these benefits, at what cost to whom?” Considering incidents of ‘high grading’, ‘quota busting’, ‘price dumping’ and ‘data fouling’ in countries that have adopted an ITQ-based fisheries management system, some of the articles in this dossier question whether or not a rights-based regime is the best bet for better conservation of fisheries resources.

There are also articles that show how some disadvantaged coastal communities have, in fact, benefited from the introduction of property rights in fishing. Matthew Hooper, in an article on ITQs in New Zealand (see pg. 18), for example, claims, drawing upon the experience of the Maori peoples, “how a system based on well-defined property rights allows the rights of indigenous communities to be recognized and provided for...”

There is broad agreement, on the one hand, about a rights-based approach to fishing, including the introduction of artisanal and trawl-free zones in coastal fishing, aquarian reforms in inland fishing, fishing rights in reservoir fishing, transferable quotas in large-scale fishing, reallocation of rights in commercial fishing, or assertion of traditional rights in marine fishing. There is some support to adopting fishing-rights regimes in consultation with fishing communities and in implementing these regimes in a participatory manner. In this context, the role of fishers’ movements has been highlighted.

On the other hand, from a perspective of labour, gender and human rights, there are fears about some forms of fishing-rights regimes being inequitable, and about the socially insensitive manner in which some of these regimes are defined, adopted and

practised. The underlying narrow economic worldview of these regimes has been critically examined.

What emerges very clear from the debate is that the last word is yet to be spoken on fishing-rights regimes and their scope, especially in the small-scale fisheries of the world.

At the end of the day, questions still remain, and more unresolved questions are only round the corner. How can fishing-rights regimes be an improvement over conventional fisheries management? How practical would it be to integrate the principle of irreversible 'exclusion', at tremendous social costs, into decisions regarding who can fish? In small-scale fisheries, are property rights necessarily the best way to determine how access amongst small-scale fishers will be allocated? How could they protect the autonomy of small-scale fishing communities and prevent alienation of access to fisheries resources to large corporations? How could they not end up marginalizing fishworkers? How could they protect and improve upon traditional rights? It appears that greater adaptive space and flexibility of fishing-rights regimes would perhaps significantly help fishery stakeholders, particularly in the developing world, adopt such regimes.

Or should we, as Menakhem Ben-Yami argues in his characteristically blunt style (see pg. 34), treat all ponderings over fishing rights as hyperbole and continue with conventional input-control measures in conjunction with small-scale fisheries that employ "less capital-intensive and technologically and operationally sophisticated fishing methods"?

These are questions that will especially trouble policymakers and fishworker organizations from developing countries—and it is for them that this dossier is primarily meant. Although most of the articles in it are drawn from the experience of marine fisheries in industrialized countries, they are relevant to developing countries and will help them make "an informed judgement about the social costs and benefits", as well as the "moral and legal foundation" of the debate. After all, the pressure on developing countries to adopt fishing-rights regimes is based on the experience of rich countries.

We hope this dossier helps readers understand the vicissitudes of some of the fishing-rights regimes in the world. It draws attention to the importance of designing such regimes—if deemed necessary—to deliver conservation and management benefits to small-scale fisheries by demonstrating sufficient sensitivity toward the economic and social needs of coastal and inland fishing communities.

Sebastian Mathew

Programme Adviser, ICSF

Feudalism at sea

Einar Eythorsson

Iceland's experience with individual transferable quotas is an eye-opener to the problems and prospects of fisheries management by quotas

During the past decade, fish resource management by a system of individual transferable quotas or ITQs has been strongly promoted as a solution to the problems of ineffective management and economic inefficiency in the fisheries. The ITQ model is attractive to resource managers for a number of reasons. First, it leaves the difficult problem of distributing fishing quotas fairly and equitably among fishermen and fishing communities to the market mechanism, making life easier for the managers. Second, it leaves the problem of getting rid of excess fleet capacity to the market and thus removes the strain of buy-back programmes and compensations from government budgets. Third, it promises a more efficient fisheries industry in the future, which, in turn, will create a flow of tax revenues and even resource rentals into the governments' coffers.

To fishermen, or owners of fishing vessels, to be more specific, the system may also look quite attractive. Unsuccessful fishermen can sell their quotas to their more expansionist colleagues, thus receiving a fair compensation for leaving the industry. Those who want to expand, or need additional quota to fully utilize the capacity of their vessels, can buy it at a market price.

The aggregate result should be an economically sound fisheries industry, with improved job security and solid foundations for community development. This is, in short, the story told by the promoters of the ITQ system. The Republic of Iceland was one of the first States to introduce ITQs as an overall management system in its marine fisheries. Those who are considering ITQs

as a management option should, for that reason, be interested in studying the Icelandic case. Are there lessons to be learnt from the Icelandic experience?

From 1984 to 1990, fishing quotas for cod and other demersal species were allocated to fishing vessels according to catch records for 1980-83. Quotas could not be divided or removed permanently from vessels, except if a vessel was wrecked or sold abroad. Quota transfers that meant a reduction of total quota holdings within a municipality had to be authorized by municipal councils and local trade unions. Market transfers of quota shares were relatively rare during this period. Quota leasing, which means that a part of an annual quota held by one boat is caught by another, was allowed from the start, and developed slowly and without much controversy until 1993.

By January 1991, the system was liberalized. Quota shares were allocated permanently, without any time limits. Quotas became divisible. They could be separated from vessels and transferred freely, as independent commodities, but only to other vessel owners.

While the 1990 fisheries law, in practice, allowed for a semi-privatization of the fishing rights in Icelandic waters, it also defined fish resources as public property. According to the law, the fishing rights defined and distributed under the law are not private property rights.

Confusing status

This somewhat confusing legal status of the quota shares evoked complicated debates over the issues of taxation, depreciation and

This article is by Einar Eythorsson, an Icelandic social scientist, then with Finnmark College, Abo, Norway. This article first appeared in *SAMUDRA Report* No. 22, April 1999

• the use of quota shares as collateral. How is
 • it possible for a private person to buy or sell
 • something which is public property? Would
 • such a thing be liable to taxation? Should
 • banks accept public property as collateral for
 • private loans?

• Initially, investment in quota shares was
 • considered as expenditure, and quota holdings
 • were not treated as capital, which meant that
 • they could not be used as bank collateral. In
 • 1993, the Icelandic Supreme Court, however,
 • found that quota holdings should be treated
 • as private capital, and that they could be
 • depreciated by the same rate as for
 • copyrights—20 per cent annually. At first, the
 • collateral problem was solved by mutual
 • agreements between banks and indebted boat
 • owners to ensure that quota shares and
 • vessels could not be separated without
 • consulting the bank. In the long run, this
 • situation became very unpractical (fishing
 • vessels representing minor market value
 • without quota shares) and quota shares were
 • eventually allowed as collateral.

• The generous depreciation rate for quota
 • shares is also being removed, as it has led to
 • a reduction in tax payments from the fishing
 • industry. The official status of quota shares
 • as public property, while they are treated as
 • private property for all practical purposes, can
 • not be upheld in the long run. This was
 • illustrated by a Supreme Court decision in
 • December 1998, which is detailed later on in
 • this article.

• As the ITQ system, in theory at least, should
 • strengthen the foundations of the fishing
 • industry, it should mean more secure and
 • even better paid jobs at sea. On the basis of
 • such future prospects, the Icelandic Union
 • of Deckhands (SS) was basically positive to
 • the introduction of ITQs. The Union of
 • Skippers and Mates (FFS) was more
 • sceptical, and soon became explicitly
 • negative. Since the liberalization of the ITQ
 • system in 1991, there has been a series of
 • bitter conflicts between vessel owners and
 • crewmen, resulting in repeated strikes and
 • lockouts in the industry. The reason is found

mainly in the changing dynamics in the
 fisheries industry under ITQs, especially the
 implications of a growing leasing market for
 annual quotas.

The term ‘quota leasing’ covers different
 types of transactions to transfer rights to catch
 a certain amount of a certain fish species in
 the current year from one vessel to another.
 One form of transaction is an equal exchange
 of species—the rights to catch one species
 are paid for by the rights to catch another,
 based on an exchange rate between different
 species. A second form is leasing quota
 directly, which means that the right to catch
 a certain amount of fish is paid for in money,
 at a market price derived from supply and
 demand.

A third variety, which became increasingly
 common during 1992-93, is contract fishing,
 or what is often referred to among fishermen
 as ‘fishing for others’. Fishing contracts are,
 in many cases, signed between vessel
 owners with small quota holdings and
 vertically integrated fishing/processing
 companies with large quota holdings. The
 vessels are then obliged to deliver their
 catches to the company. They receive a fixed
 price for the catch.

In 1993, this price was about half the market
 price in the case of cod fishing, the remaining
 50 per cent being indirect payment for the
 leasing of quota from the company. The
 income of crew members is a fixed
 percentage of the price received for the
 catch, as defined by the share system. The
 practice of contract fishing outlined above
 means that the income of a crew on a vessel
 fishing under such a contract is bound to be
 substantially lower than the income of a similar
 crew on a similar vessel with sufficient quota
 holdings belonging to the vessel.

As contract fishing became more
 widespread, more crewmen experienced a
 drop in their income. According to their
 unions, there were several incidents of leasing
 contracts being arranged for the sole purpose
 of reducing the labour costs in the fisheries,

a practice often referred to as ‘quota-profiteering’ (*kvotabrask*).

Feudal system

The system of contract fishing is often referred to as a feudal system of ‘sea lords’ and ‘tenants’. Under the ITQ system, quota holdings are being concentrated in fewer and bigger companies, while there is a substantial fleet of fishing vessels with insufficient quota holdings for a year-round operation. In some cases, vessels have been stripped of their quota, and sold cheaply to fishermen who intend to make a living by leased quotas. These boats, the so-called ‘eunuchs’, contribute to the high demand for leased quota and a high leasing price. In this situation, vertically integrated processor companies can, in fact, ask for bids from idle vessels, in order to have ‘their fish’ brought home at the lowest possible cost.

This, in short, was the background of the fishermen’s strike in January 1994 and repeated strikes in the following years. The unions wanted to abolish the system of quota leasing, or even remove the entire ITQ system. The result has been a partial return to a system of negotiated minimum prices, and a special committee to resolve conflicts regarding prices and shares. There is a growing opinion that the share system should be reformed or even abolished to avoid the effects of ITQs upon the income of crewmen. The fact that the holders of quota shares also hold the strongest negotiating power in the industry has now been realized by the unions—despite the strikes, they have not achieved any fundamental change of the ITQ system.

After eight years of experience with the ITQ system, the controversies within the industry and in Icelandic politics are as strong as ever. Repeated polls among the Icelandic population show that most of the public is opposed to the system. It is, however, uncertain how, or if, the implementation of ITQs can be reversed without a massive economic loss. Quota shares are considered as private property for all practical purposes,

and they represent a major capital value, relative to the national economy of Iceland. Companies with big quota holdings have strengthened their position, and quite a few of them have made investments in fisheries enterprises abroad. It is thus hard to imagine how the quota-capital could be returned to the public. In any case, the present owners of quota shares would claim full economic compensation from the government if their quota assets were to be confiscated.

However, it seems that we have not yet seen the end of the ITQ story in Iceland. In December 1998 the Icelandic Supreme Court reached a verdict in a case raised by a fisherman who had been denied a fishing licence and a catch quota. The denial was based on the fact that the fisherman in question had not been an owner of an active fishing vessel in the early 1980s, the period in which ‘fishing experience’ was converted into fishing rights.

Equal rights

Considering the Icelandic constitution, which claims equal employment rights for every citizen and the Fisheries Law of 1990, which defines the fish resources as public property, the Supreme Court found the denial unlawful and unconstitutional. In short, the Court found that by implementing the ITQ system, the government had given away exclusive rights to the publicly owned Icelandic fish resources to a group of people who happened to be the owners of active fishing vessels at a certain point of time. Such an act could not be justified by the need to preserve the resources or by the best public interest.

So far, the Icelandic government has responded by making a minor change in the fisheries legislation. Any owner of a fishing vessel is now free to apply for a licence, which provides the opportunity to catch some quite rare fish species that are not managed under the ITQ system. However, catch quota for any of the major commercial species must still be bought or leased from the present owners. Provided that there are limited employment alternatives for fishermen, this

...by implementing the ITQ system, the government had given away exclusive rights to the publicly owned Icelandic fish resources to a group of people who happened to be the owners of active fishing vessels at a certain point of time

Judging from the Icelandic experience, there seems to be little doubt that ITQ systems have major implications for the distribution of income, wealth and power

· change will probably only increase the
· demand for annual quota on leasing contracts,
· as more vessels with little or no quota can
· enter the market. This, in turn, may cause a
· further increase in leasing prices and,
· consequently, a downwards pressure upon
· the income of crewmen. Meanwhile, the
· capital value of quota shares will climb further
· upwards.

·
· I have chosen to dwell upon some of the
· problematic issues involved in fisheries
· management by ITQs. I will not argue that
· there are no economic benefits from ITQs. I
· will rather ask who is enjoying these benefits,
· and at what cost to whom. Judging from the
· Icelandic experience, there seems to be little
· doubt that ITQ systems have major
· implications for the distribution of income,
· wealth and power. By learning from the
· experience of Iceland and other States that
· have implemented ITQs, it should be possible
· to make an informed judgement about the
· social costs and benefits of the system, as
· well as its moral and legal foundation. ■

Coastal resources for whom?

Parzival Copes

As powerful forces seek to industrialize and privatize the world's fish resources, it is time to counter the moves to dispossess coastal fisherfolk

Since the beginning of civilization, fisherfolk of coastal communities have laid claim to adjacent coastal resources. Their perceived rights to local fish stocks derive from the sustained use they have made of them. The importance of these rights has been intensified by the evolved economic dependence of coastal people on their fishery resources. However, it is becoming increasingly clear that coastal communities will be able to maintain their prerogatives of priority access to adjacent fish resources only by a vigorous collective defence of these resources as their common property.

Typically, most inshore fish resources have lent themselves well to harvesting by locally based small-scale fishermen. Their traditional rights to adjacent fish stocks are now threatened by two significant developments. One is the growth in power and ambition of industrial corporations in the fisheries sector. Such corporations have naturally dominated offshore and distant-water fishing operations, because of their ready ability to access the large-scale technology and financing needed for such operations. Now, in their drive for greater market share and enhanced security of raw material supplies, they are also seeking to increase their direct access to resource-rich coastal fisheries.

The second threatening development is the current drive for formalization of access rights to fish resources in a manner compatible with contemporary Western notions of corporate and individual private property. This is increasingly taking the form of attempts to 'privatize' the fisheries by

commercializing ownership rights through transferable shares in the fish harvest. Such rights are referred to as 'individual transferable quotas' (ITQs). An underlying objective of most promoters of ITQs is to ensure the dominance of market forces in arranging access to the fisheries, by allowing unfettered transferability and accumulation of quotas at unrestrained market prices. This has the effect of monetizing access rights at high capital values, thereby favouring corporations and wealthy investors. Using their financial power, they are able to bid up the price of quotas and buy up access rights to large shares of the harvest, either by outright quota ownership or by control through tied loans to individual operators.

The complexity and high cost of managing ITQ systems have made their application in the coastal fisheries of most developing countries impractical at this time. Here the corporate fisheries sector is more likely to impact the small-boat inshore fisheries through the incursions of larger company vessels into inshore waters or through their depletion of stocks that migrate between the inshore and the offshore.

The usual procedure in introducing an ITQ regime is to give a free allocation of perpetual quotas to the owners of currently operating fishing vessels, with the proviso that they (and future owners) have the right to sell these at any price obtainable in the market. The value of a set of quota holdings, even of a small-boat operator, in many fisheries may now run to tens of thousands of US dollars and, in some fisheries, may amount to well in excess of a million dollars.

This article is a summary of an extended paper by Parzival Copes, which formed the keynote address at the founding meeting of the World Forum of Fish Harvesters and Fishworkers in New Delhi, on 18 November 1997. This article first appeared in *SAMUDRA Report* No. 23, September 1999

Such prices constitute a strong incentive for established fishermen to sell out if they are in an ITQ fishery, particularly if they are close to retirement. If they are in a fishery without transferable rights, they may be persuaded to have their fishery converted to an ITQ system, so that they may also make a windfall gain when they retire.

ITQ systems are very difficult to dismantle, both for fiscal and political reasons. Once the rights have been traded, the new owners would claim full compensation for the rights they had bought if the government decided that the ITQ or transferable licence regime was not working well and should be abandoned. The fiscal burden might be insupportably high and the political embarrassment would be great. Transferable rights programmes are, therefore, almost irreversible.

With ITQ systems, it is difficult for crew members on small boats to become, in time, vessel owner-operators, as has been part of the life-cycle pattern in so many fishing communities. The inequitable give-away of transferable rights to particular individuals who happen to be boatowners at the right time will tend to confine access to the fishery to a more select group and their heirs, and thereby create or sharpen class divisions in fishing communities. A further important social and economic concern is that of the geographical concentration of fishery access privileges. This may be achieved through the acquisition or control of ITQs by corporations, which then locate the fishing vessels they own or control at their base of operations in particular larger centres. This is liable, in time, to destroy the viability of many smaller communities that do not have the financial resources to compete for the purchase of quotas and licences, but that would have remained economically viable if they had continued to have access to their accustomed resource base. This represents a loss of social capital invested in infrastructure and of private capital invested by the inhabitants, who may also find their lives disrupted and their circumstances much reduced.

It is important to recognize clearly the intrinsic nature of a government's move to install an ITQ regime, starting with a free gift of marketable access rights to selected individuals. It is basically the expropriation without compensation of a community's resource base. This may end up with alienation of the resource from the community, and its actual or prospective transfer into the hands of outside corporate or entrepreneurial interests, which may decide to exploit the resource from a distant base. The direct financial value of this confiscation may be measured by the capitalized value of the quota holdings representing the alienated resource.

Privatization of rights

In summary, what does the move to 'privatization' of fishing rights in the form of ITQs and transferable licences really mean for coastal communities that have been historically dependent on their local fishery base?

It may mean the 'enclosure' of their fishery commons by the authority of a distant government; the confiscation of a fishery resource to which they have had a long-established traditional right; the rupture of a community's social fabric and the sharpening of class and wealth distinctions, with the assignment of windfall gains to some and the loss of access to a master-fisherman's career for others; the prospect of alienation of a vital community resource base to wealthier outside interests; and, finally, the possible decline and eventual abandonment of the community itself.

ITQs are frequently promoted as a device to 'privatize' the fishery. It is asserted that they would abolish the common-property nature of fish stocks, and bring about private ownership of the fishery, with the efficiency advantages that attach to such ownership. This vision is wrong. The notion that ITQs will remove the common-property nature of fish stocks and make the fishery 'just like' other industries is utterly unrealistic. It needs to be realized that fish in the ocean are

fugitive and can not be segregated, identified and assigned to different owners. The ecology that nurtures them is the seamless multi-use ocean environment that is common for fishing, recreation, transportation and many other purposes. Fish stocks and the ocean environment that produces them, by their very nature, are common-use and common-property resources. They can not be divided into self-contained and separately managed units to which comprehensively specified private property rights may be attached.

For privatization of the fishery to be substantially complete and to meet the test of economic efficiency, it would be required to give every fishing enterprise exclusive property rights to, and exclusive control over, a particular identified set of fish, along with a particular ecology that produces those fish, in the same way that a farmer owns and controls specific animals and all the productive facilities of the farm necessary to raise and bring those animals to market. It is patently impossible to operate in such a fashion in the marine fisheries, because of the physically determined common-use nature of the resource.

ITQs do not give property rights to the fish stocks, but only privileged access rights to a pool of fish that quota holders continue to exploit in common. It has been demonstrated that ITQs will often help to rationalize fishing capacity. On the other hand, as shown above, they will also frequently result in distributional inequities. Of further concern is the fact that, in many cases, they are demonstrated to be damaging to fisheries conservation.

In ITQ fisheries, the total allowable catch (TAC) needs to be set firmly at the beginning of a season or fishing period, as participants need to know in advance what their quota (share of the TAC) is. The credibility of the system depends on honouring the set quotas, but sound management requires constant monitoring of stocks, with in-season changes in TACs and fishery closures, according to observed stock conditions. The inflexible

TACs of ITQ systems lead to harmful overfishing if they are set too high, or wasteful underfishing if they are set too low.

ITQ systems are notorious for cheating ('quota busting'), with participants taking, but failing to report, catches in excess of quota. Enforcement of quotas is difficult, expensive and, in many fisheries, impossible to achieve. Where enforcement of quotas is reasonably successful, a different problem arises, that of 'high-grading'. In order to maximize income from their (quantitative) quotas, fishers are induced to throw away fish that have a lower value per pound, which often means a significant part of their otherwise saleable catch will be discarded and go to waste. Even worse is the practice of 'price-dumping' in some ITQ fisheries, where the entire catch of a trip is discarded if, on the way back to port, it is found that the day's market price is low.

Forbidden practices

All three of the foregoing practices are usually forbidden in ITQ fisheries, and so perpetrators do not report their transgressions. This leads to 'data fouling', with catch mortality being under-reported and managers not knowing the full impact of fishing on stocks. The result is inferior stock estimation and greater hazards in setting unreliable quotas at the beginning of the fishing season.

Adding to the problems are mixed-stock fisheries, where it is impossible for vessel operators to catch different species in the same proportions as the quotas given for those species. This also may result in discarding to match catches with quotas, or to quota busting to hide overages.

There is ample evidence to indicate that ITQ systems often can not be reconciled with sound fisheries management and are basically incompatible with the precautionary approach that is now the international standard for responsible fisheries management. While small-scale fishing communities may feel particularly threatened by the damaging social impacts of ITQs, they may find that some of

ITQs do not give property rights to the fish stocks, but only privileged access rights to a pool of fish that quota holders continue to exploit in common

• their most effective arguments refer to the
 • adverse conservation impacts of ITQs. This
 • also provides a strong basis for alliance with
 • socially sensitive environmental groups.

• In the industrialized countries, small-scale,
 • owner-operated vessels fishing in coastal
 • waters have some important natural
 • advantages over the corporate fisheries
 • sector. Smaller vessels are generally
 • effective in targeting inshore stocks, and
 • economical in operation close to their local
 • base. With short times at sea and a good
 • holding facility, they can deliver a high-quality,
 • fresh product. The owner-operator of a small
 • boat is greatly motivated to run his vessel
 • efficiently and maintain it carefully.

• Provided the small-scale fishery is
 • rationalized to yield attractive revenues per
 • boat and to operate subsidy-free, it is in a
 • position to impress sensitive governments
 • with the social advantages of its relatively
 • high labour intensity, its favourable lifestyle,
 • and its economic and social underpinning of
 • smaller coastal communities.

• The populations of many fishing communities
 • have grown, while advancing technology has
 • reduced employment opportunities in the
 • fishery, even if partially offset by the greater
 • range of fisheries now pursued. To remain
 • economically healthy, the small-boat sector
 • must accept the need to keep fishing capacity
 • in balance with available harvests. This will
 • probably require occasional reductions in fleet
 • size by buy-back, in order to offset likely
 • advances in fleet productivity.

• **Developing countries**

• The plight of small-scale fishing communities
 • in developing countries is often a daunting
 • one. Where population densities are high,
 • open access to the fishery has frequently
 • attracted large numbers of impoverished,
 • landless workers.

• Fishing communities have often become the
 • abode of ‘the poorest of the poor’. Intense
 • population pressure, in combination with a

lack of government capacity to manage the
 fisheries and a lack of effective local authority
 to impose a conservationist discipline, easily
 leads to overfishing.

In several countries, the desperate need for
 immediate daily income has caused fishers
 to engage in ‘Malthusian overfishing’,
 employing destructive techniques using
 dynamite, poison and ultra-small-mesh nets.

In developing countries, the immediate threat
 to small-scale fisheries often comes from the
 encroachment on inshore fish stocks by
 industrial fishing operations. These have often
 been encouraged by governments anxious to
 promote industrialization and to develop
 export industries for high-value species, such
 as shrimp.

In addition, industrial fisheries and
 aquaculture operations have been allowed to
 encroach upon the grounds of small-scale
 fishers. Lack of fishery management
 restrictions on these operations often leads
 to depletion of wild stocks and disease
 outbreaks in aquaculture.

On the other hand, in some countries,
 governments have recognized the needs of
 vulnerable coastal communities, and have
 moved to protect coastal fisheries by
 prohibiting larger vessels from fishing near
 to shore, though enforcement has frequently
 been ineffective.

The immediate priority of threatened small-
 scale coastal fishing populations in developing
 countries has to be the vigorous assertion and
 defence of traditional rights to adjacent
 resources, culminating in legal recognition of
 those rights. No less important, however, is
 the long-term need to achieve a reform of
 coastal fisheries that will help to banish
 damaging fishing practices and produce larger
 sustainable yields. Experience suggests that
 community-based co-management
 approaches may have the best prospects for
 success. A full solution to the coastal fisheries
 problem in developing countries will require

the provision of job opportunities outside the fishery to draw off surplus labour from the fishery.

Political fashion

Small-scale fishing communities in developed countries have become the victims of the current political fashion for ‘privatization’. It is being applied to the fishing industry incorrectly, in the mistaken belief that the common-use and common-property characteristics of marine resources can be suppressed.

The device of the ITQ is being used to this end, on the erroneous assumption that fugitive marine resources can be divided, packaged and assigned to private owners in effectively the same fashion as immobile and captive terrestrial resources.

In some places, much damage has already been done in alienating fishery resources from small-scale fish harvesters and in diverting fish catches from smaller, fishery-dependent communities to larger, industrial centres. Meanwhile, in developing countries, small-scale fish harvesters in many places are losing resources to encroaching industrial fishing and aquaculture operations. The already precarious livelihood of large numbers of fishery-dependent workers and their families is at stake.

Behind the current campaign for ‘privatization’ of fisheries lies the reality of an assault on the traditional common-property resource rights of vulnerable fishery-dependent populations. Given the clearly adverse impacts of privatization devices such as ITQs, both on social equity and on resource conservation, a strong basis exists for joint action in defence of common-property marine fish resources by groups representing small-scale fish harvesters and environmentalists, both in developing and in industrialized countries. Considering the extensive and near-irreversible damage that is being inflicted by so-called fisheries privatization, there is no time to lose in mounting the defence. ■



The immediate priority of threatened small-scale coastal fishing populations in developing countries has to be the vigorous assertion and defence of traditional rights to adjacent resources, culminating in legal recognition of those rights

Flipped on its head?

Michael Belliveau

A Canadian Supreme Court ruling on the traditional fishing rights of the M'ikmaq threatens relations with commercial fishermen

The native peoples of Canada represent approximately five per cent of the country's population. They live along the three ocean coasts of the country as well as inland, and have been on the continent for thousands of years. During the 17th and 18th centuries, the then British colonial power entered into various treaties with them, sometimes for purposes of peace and friendship, and sometimes to guarantee territory and trade.

One such treaty was agreed to in 1760 between the British Governor Lawrence and the M'ikmaq peoples who fished and hunted in the regions of eastern Canada bordering the Atlantic. The treaty itself generally fell into disuse but was used in defence of a M'ikmaq fisherman, Donald Marshall Jr., who was charged with fishing in a closed area, using unregulated gear.

The case found its way through Canada's judicial system right up to the Supreme Court. On 17 September 1999, Supreme Court acquitted Marshall on the basis that the treaty gave him a right to fish and trade such fish in order to earn a moderate livelihood for himself and his family. The court decision made it explicit that the treaty right could be regulated and subject to catch limits that provided for a moderate livelihood. However, some M'ikmaq people believed they now had a recognized right to fish when and where they so chose, and began placing lobster traps into areas where the lobster season was closed.

As the M'ikmaq built up their fishing presence in closed lobster areas, commercial fishermen who rely on the same lobster area

for their livelihood grew increasingly angry as the Government Department of Fisheries made no attempts to restrain the out-of-season fishing.

The situation exploded on 3 October when fishermen in the Miramichi Bay off the coast of New Brunswick sent out 100 boats that proceeded to haul up native lobster traps, removed the meshing, returned the lobsters to the water and sank the disabled traps.

Native persons responded by taking over the government wharf at Burnt Church on the Miramichi, burning two fishermen's trucks and bringing in what they refer to as their 'warrior society'. Native and non-native people were driven into direct and violent conflict with one another, and similar situations threatened to break out in other coastal areas.

The Marshall Case was now preoccupying the media and the political leaders of the country. The decision of the Supreme Court judges was questioned widely, and two of the seven judges also dissented. The Premier of Newfoundland, Brian Tobin, blasted the judges for not understanding the nature of the fishery and for not providing a period of time for the implications of the decision to be properly managed and implemented. The entire commercial fishing sector in Eastern Canada was protesting, calling for a moratorium and political intervention. They felt the fishery as they knew it was being undermined.

Restrictive regime

The reader not familiar with Canada must remember that there are 50,000 fishermen in Atlantic Canada fishing under a very

This article is by the late Michael Belliveau, an erstwhile Member of ICSF and formerly Executive Secretary, MFU. This article first appeared in *SAMUDRA Report* No. 24, December 1999

restrictive fisheries management regime. The lobster fishery is particularly sensitive because the species is widely dispersed in inshore waters along a very large coastline. It is a fishery broken down by zones (lobster is a sedentary species seldom moving beyond 25 km of its habitat), and each of 44 zones has a specified season that is rigidly enforced.

Licences are limited, and their total number frozen. This limited entry has led, over time, to licences acquiring a value and being considered as quasi-property. If you had invested \$100,000 in a lobster licence, you might get a little anxious if you saw a few native fishermen fishing out of season, apparently authorized by the Supreme Court to do so, and catching with each trap ten times as many lobsters as the commercial fishermen catch in season.

The M'ikmaq people, for their part, have historically been marginalized into a reserve system (although they also have full rights as Canadian citizens), where rates of unemployment are astronomical, levels of education low, and standards of living below the poverty line. They believe their fishing rights have been denied them under the modern fisheries management regime.

In total numbers, the M'ikmaq pose no serious threat to commercial fishermen, except in localized areas where there are significant numbers of natives adjacent to the lobster grounds that are fully subscribed to.

However, if their treaty right is a 'blank cheque' to fish whenever, wherever and however, then the commercial fishery, as we know it, has been flipped on its head. But the Supreme Court has made it clear that it is not a 'blank cheque', but a limited right to a moderate livelihood and, indeed, it is a 'communal' right and not an individual right as such.

The obligation is on the M'ikmaq as a people to exercise the right in accordance with regulations. The Government of Canada has appointed a Chief Negotiator who has until

15 April 2000 to arrive at interim fishing plans that accommodate the new treaty rights. Until such fishing plans are tied down, inshore fishermen remain extremely anxious, and the social climate in fishing areas where natives and non-natives live in the same broader communities remains tense.

The Maritime Fishermen's Union (MFU) has been at the centre of the controversy since our inshore fishermen are based in all of the areas where there are significant numbers of coastal M'ikmaq.

The MFU recognizes the Supreme Court decision has been a breakthrough for the M'ikmaq. We believe their new rights can be accommodated within the present fisheries management system. The accommodation can be done by means of a voluntary licence retirement programme.

We believe strongly that the accommodation should not be on the backs of fishermen but should be shouldered by the society as a whole through their government.

As we write, it seems the Federal Cabinet will recognize this principle and allocate the appropriate monies to make the adjustments. In the meantime, we want to find ways of making the peace between commercial fishermen and First-Nation peoples. ■

Licences are limited, and their total number frozen. This limited entry has led, over time, to licences acquiring a value and being considered as quasi-property

Up against trawling

Tries Zamansyah

The traditional fishermen of North Sumatra have united to battle the threats posed by trawling

After the New Order government of Suharto came into power in 1966, a new phase in Indonesia's development was initiated. This was articulated in the *Trilogi Pembangunan* (the Three Basic Principles of Development) that aimed to achieve a certain level of development. At the same time, the New Order also took some steps to maintain national stability, based on the assumption that development targets could only be achieved if national stability was guaranteed.

One of the strategies adopted for this was to maintain the community's focus on development efforts. Another was to keep the community away from political activities, including the activities of political parties. At the same time, political parties were not allowed to make contact with communities, especially in rural areas.

The New Order also established people's organizations, such as *Himpunan Kerukunan Tani Indonesia* (HKTI)/Indonesian Farmer Brotherhood Organization) and *Himpunan Nelayan Seluruh Indonesia* (HNSI)/Indonesia Fishermen's Organization). These were actually linked to the ruling political party. Fishworkers were allowed to join only HNSI and farmers, only HKTI. Members of these organizations were obliged to vote for the ruling party.

Any attempt to establish a new independent organization would be branded as a communist initiative by the government. In practice, this system blocked the aspirations of local people and made it difficult for them to engage in any political activity, except

during the public elections, once every five years.

To accelerate the country's development, the government emphasized the modernization of every sector. In fisheries, the emphasis was on substituting traditional fishing equipment with modern craft and gear, in order to improve the income of fishers.

As part of this drive, traditional fishers were encouraged to replace traditional gear with trawls, known in Indonesia as *pukat harimau*. Credit incentives were provided for this. Trawls were seen as having several advantages, particularly greater efficiency, which made possible higher levels of fish production with minimal human resources. Due to these various benefits, the trawl soon became the gear of choice in the modernization drive.

However, this policy did not take into account the fact that traditional fishermen lacked the knowledge and training needed to operate trawls. Moreover, they could not afford to purchase the highly priced trawls, despite credit incentives. As a result, the policy actually benefited the professionals within the sector, and did little to improve the situation of traditional fishermen. More often than not, trawls were owned by investors, who used skilled labour to operate the gear.

For the traditional sector, several negative impacts resulted. With the use of trawls, large catches became possible. But their use also destroyed the coastal environment and important spawning and breeding grounds. Most of the trawlers operated in the same coastal waters used by traditional fishermen,

This piece is by Tries Zamansyah, Secretary General of the Sarekat Nelayan Sumatera Utara (SNSU), North Sumatra, Indonesia. This article first appeared in *SAMUDRA Report* No. 25, April 2000

their ‘customary sea’, and competed directly with them.

Public property

This affected both the catches and the income of the traditional fishermen. Significantly, the concept of the ‘customary sea’ vanished when the Government of Indonesia declared the sea as ‘public property’, as stated in Ministry of Agriculture Decree No.607/KPTS/UM/9/1976.

Forced to respond to the protests of traditional fishers, the Government implemented a trawl ban in 1980, through Presidential Decree No.39/1980. The use of trawls was banned in all Indonesian territory, except in Irian Jaya and Maluku, by Presidential Decree No.12/1982).

This ban was also supported by a Decree of the Indonesian Supreme Court (No. 8/1988). Despite this, in practice, the ban has not been operational. Vessels using trawls continue to operate in Indonesian territory, especially in the North Sumatra region. This situation has forced the traditional fishers of North Sumatra to undertake various actions.

It is also significant that, until now, the HNSI has failed to solve the problems resulting from continued trawling activities and has not been able to work towards the implementation of the ban. On the contrary, there is a tendency for the HNSI to favour the trawler owners and to even protect and provide cover to their operations.

There are several reasons that make it difficult to implement the trawl ban. The ban on trawling, under the Presidential Decree No. 39/1980, was not supported by effective monitoring and enforcement at the regional level.

Other government policies have supported the continuation of trawling activities. For instance, a fisheries regulation of 4 July 1996 supports the purchase of foreign boats by investors. This, in effect, means the procurement of trawlers. This has occurred in Belawan, where there are at present 144

modern fishing boats using trawl-like gear, named otherwise to get past the law.

There is no policy that specifically protects traditional fishers, their gear and their customary area of operation, from the operation of modern fishing gear such as trawls. Although there is a Fishery Law that acknowledges the rights of these traditional fishers to their customary sea, this regulation is not operational.

The Regional Government Offices that issue permits to fish often do not take into account their impacts on the traditional sector or, for that matter, on the coastal environment. In fact, they tend to favour the interests of the investors.

The institutions that are meant to implement the trawl ban, such as the marine force, the police and the fisheries department, often have overlapping responsibilities. Collusion tends to occur between trawl owners and government officials. For example, trawls that have been confiscated by traditional fishers and handed over to the authorities, are released the very next day.

This situation has angered traditional fishermen. And, not surprisingly, they have taken several actions, such as burning of trawlers. They feel that they cannot depend on the official system to take care of their interests.

The resentment of traditional fishermen towards trawler owners is further aggravated by the fact that they have established a three-tier marketing network of intermediary middlemen that controls fish prices. The price at which the consumer finally purchases the fish is very high. Since traditional fishermen can only sell their fish to the first middleman, they get a very low price.

They have no other option but to go along with this system; if not, they run the risk of not being able to sell their catch at all. Any effort to establish an alternative marketing structure is soon destroyed by the marketing network controlled by owners and investors.

There is no policy that specifically protects traditional fishers, their gear and their customary area of operation, from the operation of modern fishing gear such as trawls

The SNSU aims to create unity among fishers in North Sumatra and to support them in their struggle for social, cultural, economic and legal justice, as citizens of Indonesia

The Fish Auction House that was supposed to have functioned as the place for fishermen to auction their catches has become part of the owner-controlled marketing system. The situation is similar in fishermen's co-operatives.

Several meetings were held by fishworkers between 1993 and 1998 to discuss this situation. Fishermen and a number of public figures in North Sumatra participated in these meetings. It became evident that to deal with these problems, traditional fishermen in North Sumatra must establish an independent organization managed by the fishers themselves.

Independent organization

Finally, on 14 July 1998, in Medan, an independent fishermen's organization was formed, called the *Sarekat Nelayan Sumatera Utara* (SNSU) or North Sumatran Fishers' Union.

About 900 traditional fishermen from three regions in North Sumatra (Langkat, Asahan and Deli Serdang) participated in this event. SNSU aims primarily to draw the attention of the government to the long-neglected problems of traditional fishermen—for instance, the problems caused by trawling and other similar operations, and their impacts on traditional fishermen and on the coastal environment.

The SNSU declaration was presented to the Governor of North Sumatra and to the Head of the Provincial Fishery Department in North Sumatra. This led to a dialogue between fishermen and the Governor. The Governor promised that the problem of trawling would be resolved within a year.

But this promise was never fulfilled. In fact, the number of trawlers operating in the area has increased, even as conflicts between the trawlers and traditional boats have risen.

Along the Sialang Buah coast, in the district of Mengkudu in the Deli Serdang region alone, 51 fishermen were injured between 1993 and

1998. Of these, 31 fishermen lost their lives as a result of injuries from clashes between the traditional boats and trawlers at sea. There have been several other such incidents in regions such as Langkat, Asahan and Belawan. However, there are no official records of these incidents.

As an organization founded by fishermen, SNSU actively promotes the interests of traditional fishermen by putting pressure on the Provincial Governor of North Sumatra, the President of Indonesia, and agencies such as the Office of the Attorney General, the District Military Office of Bukit Barisan, Lantamal I Belawan, Provincial Fishery Department in North Sumatra, and District Officers (*Muspika*) in coastal areas, etc.

A number of activities have been undertaken to draw attention to the problems of traditional fishermen, such as delegations, demonstrations, presentations, and even the direct arrests of trawlers.

The SNSU aims to create unity among fishers in North Sumatra and to support them in their struggle for social, cultural, economic and legal justice, as citizens of Indonesia. More specifically, it aims to:

- develop economic activities for all members through the formation of fishermen's co-operatives;
- improve the social welfare of all members;
- train members through educational activities;
- defend the interests of members through advocacy; and
- establish fishermen's groups in every district along the coast of North Sumatra.

In order to achieve these objectives, SNSU has developed various programmes. These can be broadly classified as Advocacy, Community Economic Development, Human Resource Development, and Networking.

The present era of reform in Indonesia, where freedom to organize and express one's views is part of the democratization process, has provided a good opportunity for traditional fishermen to articulate their concerns. It is hoped that the establishment of the Ocean Exploration and Fishery Department will promote the welfare of traditional fishermen in Indonesia and particularly in North Sumatra. Hopefully, the mistakes of the past, when the traditional fishery sector was ignored, will not be repeated. ■



Redistributing wealth

Francis Christy

The use of individual transferable quotas as a resource management measure must not be summarily dismissed

Parzival Copes' arguments against the use of individual transferable quotas (ITQs) for the management of fisheries ("Coastal resources for whom?", SAMUDRA Report No. 23, September 1999) are not particularly helpful to those responsible for making decisions on the formulation of management measures. Although ITQs will not work in many situations, they, nevertheless, provide an important tool which should not be rejected for the wrong reasons.

It is abundantly evident that overfishing is becoming more severe and more pervasive throughout the world and that it affects small-scale fisheries as much as it does large-scale fisheries. The basic problem is that the supply of fish stocks is limited and yet the demand for fish products is growing. This leads to rising prices and, in the absence of effective controls, increased fishing effort. The result is the depletion of stocks as well as the excessive use of capital and labour.

Better management of fisheries is essential. Management measures can deal either solely with the biological aspects or with both biological and economic aspects. In the past, many of the measures dealt only with the biological yield, ignoring the economic consequences. These kinds of measures included total catch limits, closed seasons, closed areas, mesh size controls and others designed to restore stocks to their maximum sustainable yields (MSY). These were frequently adopted because they presumably affected all fishermen equally and did not change the distribution of wealth (a presumption that was often wrong).

Although such measures may be desirable in conjunction with other measures, they do not always achieve their objective of restoring the stocks. Moreover, they do nothing to prevent excessive fishing effort or conflict among competing users. The difficulty is that measures that prevent excessive fishing effort or that deal with conflict, require decisions on the distribution of wealth.

This can not be avoided. As Copes has pointed out, an ITQ system provides individual quotas to some fishermen but not to others. What he did not point out, however, is that a system limiting fishing effort directly, by granting licences to some of the fishermen, also distributes wealth.

He states that "to remain economically healthy, the small-boat sector must accept the need to keep fishing capacity in balance with available harvests. This will probably require occasional reductions in fleet size by buy-back, in order to offset likely advances in fleet productivity."

Copes has failed to note that the provision of territorial rights to a community of fishermen (which he advocates and which I agree may generally be desirable) provides wealth to that community and excludes fishermen who are not members of the community. Copes states that "typically, most inshore fish resources have lent themselves well to harvesting by locally based small-scale fishermen." While this may currently be true in certain situations, it is becoming less and less valid, and is unlikely to continue into the future.

This response has been sent in by Francis Christy, Senior Research Officer, IMARIBA, Washington DC, US. This article first appeared in *SAMUDRA Report* No. 25, April 2000

It is clear that eventually, as population grows and demand increases, decisions on the distribution of wealth will have to be made. Even the exclusion of large-scale fishing vessels from the waters used by small-scale fishermen will not preclude the eventual necessity for determining how access within the group of small-scale users will be allocated. Since this is at present necessary in many situations and will be increasingly necessary in the future, it is desirable to examine all the various techniques for controlling access, including the use of ITQs. ■



*Management
measures can deal
either solely with
the biological
aspects or with
both biological
and economic
aspects*

Maori power

Matthew Hooper

The Maori fisheries settlement is a world leader in terms of resource transfer to indigenous people

The management of fisheries through the use of property rights is often perceived as being anathema to the recognition of indigenous fishing rights. Experience in New Zealand suggests that the opposite may, in fact, be the case. Not only are indigenous fishing rights compatible with a property rights approach to fisheries management, such an approach can be used to settle claims involving indigenous fishing rights, to preserve those rights for future generations, and to integrate such rights within a wider fisheries management framework.

Throughout the world, State management of fisheries using regulatory instruments has left indigenous communities subject to the values and aspirations of the dominant culture as represented by the government of the day. No matter how liberal, democratic and egalitarian the State may be, the final result is likely to further erode the ability of indigenous communities to manage, harvest, and use natural resources in ways that are consistent with their cultural needs. A property rights-based system can provide a robust mechanism for ensuring the sustainable utilization of fisheries, while providing for indigenous rights holders to realize their often divergent social and economic aspirations.

Indigenous communities traditionally have their own internal regulatory mechanisms for management of their fishing activity. Such regulatory mechanisms are integral to the nature of their fishing rights.

Recognizing and providing for indigenous and coastal community fishing rights requires

empowering the communities concerned to use those mechanisms, and integrating them within the wider fisheries management framework. In fully exploited, multiple-user fisheries, a system based on well-defined property rights allows the rights of indigenous communities to be recognized and provided for, relative to the rights of other groups.

In New Zealand, the introduction of a property rights system for fisheries not only gave rise to the largest indigenous rights claim in the country's history, it also provided the means for that claim to be settled and for indigenous rights to be recognized and provided for within the wider legislative framework. Maori fishing rights have been recognized by a combination of property rights instruments, vested in tribal or sub-tribal communities rather than individuals. It is up to those communities to decide how they manage those rights.

As the indigenous people of New Zealand, Maori held customary fishing rights under British common law. These rights were guaranteed by the Treaty of Waitangi, signed between the British monarchy and Maori chiefs in 1840. Customary fishing was exempted from the rules and regulations in fisheries legislation made after the signing of the Treaty. However, the exact nature of these rights was never defined.

Slow negation

As a result, Maori fishing rights were slowly negated by the egalitarian principles of the dominant European settler society—one law for all. The statutory provisions protecting Maori customary fishing rights were worthless, unable to define the nature of

This article by Matthew Hooper, a Senior Policy Analyst at the Ministry of Fisheries in New Zealand, is based on a paper co-authored with Terry Lynch, presented at the FishRights99 Conference in Perth, Australia. This article first appeared in *SAMUDRA Report* No. 26, August 2000

• commercial fishing continued to be managed
• by regulation.

• The commercial rights of Maori were
• recognized through the provision of assets
• comprising quota, shares and cash. The 1989
• interim settlement provided for 10 per cent
• of all existing ITQ to be bought back from
• fishers and provided to Maori. The 1992
• Settlement centred on the Crown's provision
• to Maori of NZ\$150 mn to purchase a half-
• share of Sealord Products Ltd. Sealord is the
• largest commercial fishing company in New
• Zealand, owning over 20 per cent of all
• commercial fish quota. In addition, the Crown
• has an ongoing obligation to allocate 20 per
• cent of quota for fish species newly
• introduced to the quota management system
• to Maori.

• The Settlement legislation established the
• Treaty of Waitangi Fisheries Commission,
• previously the Maori Fisheries Commission,
• to manage the commercial settlement assets
• on behalf of Maori. The quota held by the
• Commission is no different from other ITQ
• generated under the quota management
• system. The Commission currently leases
• quota to tribes on an annual basis. In time,
• the quota will be allocated to the beneficiaries
• of the settlement, giving them all the benefits
• and obligations associated with quota
• ownership.

• The settlement is a world leader in terms of
• resource transfer to indigenous people. While
• other settlements have addressed claims to
• individual fisheries, no other country has
• transferred close to 30 per cent of its total
• commercial fishing industry to its indigenous
• people. Maori are the single largest player in
• the rock lobster and *paua* fishery, and one
• of the top two players in the snapper fishery.
• In conjunction with managing these assets,
• the Commission has become one of the best
• informed and articulate participants in the
• New Zealand fishing industry, providing
• valuable advice both to government and to
• industry bodies.

The Commission also invests in the future of the Maori fishing industry, spending around NZ\$1 mn annually on its scholarship programme, training up to 300 young Maori a year. The programme focuses on three areas: business management, studies directly related to fisheries, and a highly successful seafood processing course. The Commission offers up to nine NZ\$15,000-per-year scholarships to study at the Australian Maritime College and the University of Tasmania.

The non-commercial component of the customary right was provided for through regulations that devolve the management of non-commercial customary fishing to *kaitiaki* appointed by the *tangata whenua*. The regulatory framework provides an effective way of recognizing and providing for the traditional fisheries management practices of Maori. The framework is highly flexible about the way *tangata whenua* manage their fishing activity, but prescriptive in terms of mandate issues, recording of catch, and accountability mechanisms.

Mandated representatives

Tangata whenua must establish mandated representatives for their area before they can actively manage their non-commercial fishing activity. The regulations provide for *tangata whenua* to appoint *kaitiaki* who are responsible for managing customary fishing in their area. Disputes over who should be *kaitiaki* or over tribal boundaries must be resolved by *tangata whenua*.

Kaitiaki manage customary fishing through an authorization system which requires them to specify the exact nature of the fishing activity that is being authorized, including species, quantities, areas, size limits, methods, purpose for which the fish will be used, and instructions for the disposal of any bycatch. Each of these factors is at the discretion of the *kaitiaki*, who must act within the bounds of sustainability and with due regard for the environment.

Regulations also provide for the establishment of areas known as *mataitai* reserves over traditional fishing grounds. *Mataitai* reserves are a form of territorial use right.

There is no commercial fishing permitted within these reserves and all non-commercial fishers, including recreational fishers, must act in accordance with bylaws made by the *kaitiaki* when fishing within the reserve area.

Fishers must report back their actual catches to the *kaitiaki*, who record the information for fisheries management and compliance purposes. *Kaitiaki* must report quarterly to the Ministry of Fisheries on how many of each species were taken out of each management area within their traditional boundaries. The information generated by the regulations is then used to set sustainability measures, and provides a powerful tool for *tangata whenua* to participate in wider fisheries management processes.

After setting the total allowable catch (TAC) for a fishery, the Ministry of Fisheries must share the TAC amongst the three extractive fishing sectors—customary non-commercial, recreational, and commercial. The customary non-commercial needs of Maori have a *de facto* priority in this process—the needs of Maori are provided for first, to the extent that they are not commercial. In the small toheroa shellfish fishery, this has resulted in the entire TAC being set aside for customary non-commercial needs.

Individual customary fishers are accountable to the *kaitiaki* who authorize their activity. *Kaitiaki* are primarily accountable to the *tangata whenua* who appoint them, and to the Ministry of Fisheries, for the sustainable management of fisheries and for the maintenance of effective records for both management and compliance purposes. The State is still ultimately responsible for the overall sustainability of fisheries and for the provision of assistance to *kaitiaki* to enable the effective operation of the customary fishing regulations.

As a result of the 1992 Treaty settlement, Maori now own around 40 per cent of New Zealand’s commercial fish quota. Taking joint ventures into account, Maori have a controlling interest in more than 60 per cent of New Zealand’s commercial fishing industry. However, the commercial assets of Maori continue to be managed by the Treaty of Waitangi Fisheries Commission on behalf of all Maori, and have yet to be allocated to tribes and/or any other beneficiaries identified under the terms of the settlement.

While many tribes are benefiting from the annual leasing of quota by the Commission at discounted rates, they will not have autonomous control over the management of their commercial fishing activity until allocation has occurred. The commercial interests and objectives of Maori may differ from tribe to tribe. They may also be different from the interests of other commercial fishers in their area. ITQ allocation will allow the different priorities and interests of tribal groups to be realized within the same framework, while minimizing the opportunity or need for the State to interfere with those interests.

Distribution inequities

Property-rights instruments such as ITQ are often given a number of negative associations. These include the privatization of what are seen to be collective rights, inequities in the distribution of rights, alienation of traditional fishers from their livelihoods, and even the demise of coastal communities. However, as far as the indigenous fishing rights in New Zealand are concerned, all of these occurred to some degree before the introduction of ITQ. Ironically, it has been the introduction of ITQ and other property-rights instruments that have provided a means of addressing these issues.

The introduction of the quota management system meant that the Crown was able to buy back rights from existing commercial fishers and re-allocate them to Maori. This was meant to compensate them for the attenuation of their rights over the previous

The customary non-commercial needs of Maori have a de facto priority in this process—the needs of Maori are provided for first, to the extent that they are not commercial

The aim of all tribal groups must be to regain control over the management of all their fishing activity, both commercial and non-commercial

• 140 years. (Obviously, if the initial allocation of ITQ had taken Maori rights into account, no buy-back would have been necessary.)
 • The Settlement legislation ensures that the ITQ provided to Maori remains under collective ownership until such time as allocation occurs.

• The Treaty of Waitangi Fisheries Commission has been working on criteria for tribes to be eligible to receive settlement assets. One such criteria is that tribal bodies must have constitutional arrangements in place to ensure that the collective commercial fishing rights of a tribe, as represented by its share of quota and cash, are not alienated from the tribe without the necessary level of accountability being present. Once allocation has occurred, then the tribes can manage their commercial fishing activity the way that suits them, incorporating whatever combination of economic and social objectives they desire.

• *Tangata whenua* are now regaining control of their customary non-commercial fishing activity. Customary fishing regulations are now in place and are being implemented by tribes and sub-tribes around the country. The primary hurdle facing tribes seeking to utilize the new management framework is the determination of mandate over areas, and the resolution of disputes with neighbouring groups over boundaries and *kaitiaki* appointments.

• Customary non-commercial fishing rights, while not represented by ITQ, are still considered property rights within New Zealand's fisheries management framework. Fishers must fish within the rules and limits specified by the *kaitiaki* for the area, and must report back on what they actually caught. The Ministry of Fisheries must then make an allowance for the extent of customary needs when allocating the total allowable catch (TAC) for any fishery. The proportion of the TAC set aside for customary non-commercial take is effectively the

property right associated with customary non-commercial fishing.

Management control

The aim of all tribal groups must be to regain control over the management of all their fishing activity, both commercial and non-commercial. Once quota has been allocated, and *kaitiaki* have been appointed, *tangata whenua* will be in a position to manage their fisheries in a more holistic manner. Importantly, the well-defined rights of *tangata whenua* will ensure that there is always fish available for everything from commercial purposes on *marae* (meeting ground) to personal consumption.

The current direction of fisheries management in New Zealand foresees the devolution of management responsibilities to stakeholder groups, and stakeholder participation in the development of management plans for key fisheries and/or areas. As a result of the indigenous fisheries settlement, Maori are well placed to take advantage of the opportunities offered by such an environment. With well-defined rights firmly secured, Maori are destined to be at the centre of co-operative management initiatives in the future. ■

The twilight zone

Maarten Bavinck

The experiences of zoning for small-scale fishermen in Tamil Nadu, India, reveal both potential and hazards

One of the suggestions made to protect the livelihoods of small-scale fishermen throughout the world is the installation of special artisanal fishing zones. Such zones would make inshore fishing areas off-limit to industrial fishermen and, correspondingly, reserve them for small-scale operators. The experiences of zoning, in the Indian state of Tamil Nadu from the 1970s onward point out potential hazards as well as conditions necessary for the success of such arrangements.

At the onset of the so-called ‘Blue Revolution’ in the early 1960s, Tamil Nadu had thousands of marine fishermen, operating from small hamlets along its 1000-km long coastline. These fishermen generally confined their operations to an innermost sea area, which roughly coincided with the contours of the continental shelf. Seasonal migration took them up and down the coast, but rarely farther than 10 km from shore.

The government’s promotion of trawling technology drastically changed the seaside panorama. By the late 1960s, harbour centres berthing small trawlers had developed all along the coast, and conflicts between trawler and artisanal fishermen were rampant. The main problem was that trawlers ventured inshore to catch high-value shrimp. Not only did they intrude on grounds that artisanal fishermen considered theirs, but the trawlers also caused extensive damage to artisanal fishing gear.

These confrontations resulted in major unrest. The State government, anxious to keep the peace, constituted committees to investigate and settle whatever incidents

came to its attention. At the same time, it started to explore available policy choices. One of its core options was the physical separation of the antagonists through the installation of distinct fishing zones.

As the government of Tamil Nadu exerted strong control over access to trawling technology in the first phase of modernization—most trawler fishermen depended on the government loans and construction schemes for their vessels—it first tried out this lever. Around 1968, the Fisheries Department included a clause in its contract, stating that recipients of trawling gear could only fish outside a limit of three nautical miles. This clause is important as it constituted the first, albeit indirect, mention of an official artisanal fishing zone in Tamil Nadu. However noble its intent, the measure failed to stem the flow of the ‘pink gold rush’. As trawlers did not bear registration marks, violators of the clause could not easily be identified. Moreover, the clause’s foundations were shaky, such as in the case of a transfer of ownership. Could the new trawler owner be held to the original terms of agreement? The Fisheries Department had its doubts and rarely seems to have pursued the matter.

In 1978, after serious riots between artisanal and trawler fishermen rocked Tamil Nadu’s capital, Madras (now Chennai), the State government decided to formulate legislation based on the distinction of fishing zones.

Long-drawn process

Realizing, however, that law-making is a long-drawn process and that immediate action was being expected, the government immediately issued an executive Government Order (GO

This article is by Maarten Bavinck of the Centre for Maritime Research (MARE), University of Amsterdam, The Netherlands. This article first appeared in *SAMUDRA Report* No. 27, December 2000

881 of 1978). Alongside other measures such as time zoning, GO 881 prohibited trawling activities within a 3-mile inshore zone. For the first time, the government also made attempts to *mark* this zone by means of a series of ‘country buoys’. As the name suggests, however, these markers were so elementary that the first storm washed them away.

Trawler fishermen straightaway challenged GO 881 in court. It was not the 3-mile rule which incurred most of their wrath, however; it was time-zoning. According to the order, time-zoning implied that trawler fishermen remain in port during the night, only to be released at 6 a.m. Not only would this deny them the best fishing moments (night-fishing purportedly being more productive than fishing in daytime), it also closed off fishing grounds that could not be reached in a day’s voyage. Most seriously, time-zoning stood a great chance of being *enforced*, as it involved no more than installing a chain across the harbour mouth.

In response to the appeals, the High Court of Chennai imposed a stay order suspending GO 881’s main clauses for several years. The order was finally superseded by the Tamil Nadu Marine Fishing Regulation Act of 1983. This Act continued along earlier lines, decreeing the introduction of geographical fishing zones as well as time-zoning arrangements for trawler fishermen. It too was greeted by a flurry of court cases from disquieted trawler owners.

Interestingly, one of the plaintiffs argued that if trawler fishermen were to be relegated outside the 3-mile zone, artisanal fishermen should be obliged to stay within. Although this was contrary to the import of the Act, which did not make any mention of a mandatory zone for artisanal fishermen, the district court judge who was handling the case felt otherwise. According to his decree, artisanal fishermen not only enjoyed a preferential *right* to a separate inshore zone, it was also their *duty* to confine their operations to this

area. This, of course, artisanal fishermen protested against.

As in the case of GO 881, courts pronounced stay orders on the Act of 1983, and it was only toward the end of the decade that the various legal objections were definitely refuted by the Supreme Court of India. During all this time, the State government was unable to enact any of its fishing regulations.

By 1995, the situation had fundamentally changed. Although time-zoning was still in cold storage, the Fisheries Department was now free to implement other sections of the 1983 Act. The 3-mile rule was its showpiece regulation. Any beachside visitor, however, could tell that it was poorly observed. In fact, trawler fishermen regularly encroached on inshore waters, and conflicts with artisanal fishermen persisted. It is instructive to consider why the 3-mile rule was, and is, so badly implemented by the State government.

One of the basic factors is a lack of political will. This is related to the fact that trawler fishermen wield considerable clout in Tamil Nadu, whereas the movement of artisanal fishermen has lost force since the 1970s. Fisheries Department officers charged with enforcement thus receive insufficient backing to undertake sensitive missions, such as the apprehension of trawlers. Another reason is found in the Act’s motivation, which is primarily of a social nature. Like similar legislation in other parts of the world, its main goal was the resolution of social conflict, not the management of depleting marine resources. Once overt conflicts died down, government attention was once again diverted.

The character of coastal fisheries and the set-up of fisheries management also posed formidable barriers to the enforcement of an artisanal fishing zone. Where does one find the resources to install an infrastructure capable of guarding a 1000-km long coastline? And how does one establish

encroachments, if the artisanal fishing zone is unmarked and participants lack advanced positioning technology?

In 1995, the Fisheries Department in northern Tamil Nadu owned only one small speedboat and a small crew to patrol 400 km of shore. This boat was slow and frequently out of order. In addition, officers generally lack sea legs and are reluctant to set out to sea, fearing molestation and other unpleasantness. The prevailing reality, therefore, is that patrolling seldom occurs, and fishermen are left to settle any problems that arise amongst themselves.

This directs attention to the management set-up. In spite of the fact that fishermen along the Coromandel Coast of India have a long and rich tradition of resource management, their institutions do not enjoy any official recognition. As it is, the State government is the sole authority for fisheries regulation and enforcement with regard to inshore waters. There is, however, a mismatch between governmental capacities and the sweep of fisheries legislation. Under present circumstances, the 3-mile rule in Tamil Nadu mainly has a token value.

The idea of artisanal fishing zones derives its charm from its comprehensiveness as well as its simplicity. It ventures a simple and apparently effective solution to the problems of artisanal fisherfolk. Developments in Tamil Nadu, however, indicate potential obstacles and potholes.

Unenforceable rule

An important question is whether it is worth striving for an artisanal fishing zone if the rule can not be enforced. Many inshore fishing zones are heavily contested, and industrial fishing interests do not give up their stakes without a fight. Political support is imperative to achieve any success.

It also helps if a proposal stands a real chance of being implemented. Declaring an artisanal zone many kilometres in length and badly

marked does not contribute to its realization, particularly if staffing and resources are meagre. Co-management arrangements of government, together with fishermen, might form a solution, provided fishermen are also given official enforcement authority. To my knowledge, however, this has not been tried out seriously at a more than local level in Africa, Asia or Latin America. Many governments are wary of decentralization and the loss of power it implies, and will not readily concede far-reaching co-management arrangements.

This does not deny the potential value of artisanal fishing zones as an instrument of fisheries management. It does suggest, however, that the scheme should be well designed and tested.

The Tamil Nadu experience finally makes clear that the successful enactment of any measure to defend the interests of artisanal fishermen requires concerted and enduring effort. The proclamation of GO 881 and the Tamil Nadu Marine Fishing Regulation Act of 1983 was directly related to the activities of the artisanal fishermen’s movement in India. This movement, starting in Tamil Nadu and in Goa, soon developed into a potent nationwide force. The decline of the same movement in Tamil Nadu after the 1970s, likewise, constitutes one of the main reasons for the non-implementation of available legislation. To achieve success, political momentum must clearly be maintained over a long time period. For many fishermen’s movements, this is a huge challenge. ■

An important question is whether it is worth striving for an artisanal fishing zone if the rule can not be enforced

Naturally ours

Yogesh Diwan and Yemuna Sunny

The displaced indigenous people of the Tawa dam area in India are fighting to retain their rights over water, forest and land

In the Kesla block of Hoshangabad District in Madhya Pradesh, India, the *adivasis* (indigenous forest and tribal people) have constantly faced displacement and consequent deprivation of their resource base. The last 15-20 years have seen tribal struggles seeking resettlement and resolution of other issues relating to land, water and forest rights. Around five years ago, they got their first taste of success in the form of fishing and marketing rights in the reservoir dam at Tawa, which is a tributary of the Narmada river. An ordinance testing range had displaced people earlier, and the Tawa dam also contributes to continuing displacements of the same people. Hence, the permission for fishing and marketing rights for the displaced persons of Tawa in 1996 was indeed a welcome step by the government of Madhya Pradesh.

Earlier, in 1994, the oustees of Bargi dam (another dam on the Narmada) in Jabalpur succeeded in the entrepreneurial venture entrusted to them by the government. In 1996, the government had accepted in principle the rights of the *adivasis* to natural resources. Encouraged by this, the government granted fishing and marketing rights to the Tawa Vistapit Adivasi Matsya Utpadan Evam Vipnan Sahkari Sangh (briefly known as Tawa Matsya Sangh) for a period of five years.

The *adivasis* were initially apprehensive about the prospects of fishing in such a large reservoir and of marketing their catch. But, with the strong support of Kisan Adivasi Sangathan, the last five years have been quite a fruitful experience of collective action.

Today, 36 fish co-operative societies are active in various villages. Three affiliated societies and about 12,000 to 13,000 fisherfolk have joined hands to form a federation that runs the whole show. Uninitiated in the ways of business co-operatives and official correspondence, these people did have a hard time in the beginning. But the success of their forerunner, the Bargi fish co-operative, encouraged the Tawa fisherfolk to persist with their efforts. Today, they are adept at handling all affairs concerned with their business, be it techniques of fish culture, fish catching, identifying fish species, business accounting or negotiating with traders in cities like Calcutta or Nagpur. The revenue collected by the government in the form of royalty through the Sangh has shown a steady increase.

Prior to the Sangh's involvement, the government had laid down a target of 45 tonnes of fish production for three months in 1996-97. But the Sangh more than doubled the target to reach 93.33 tonnes. Production has been increasing and 327.18 tonnes of fish were produced in 2000-2001. Earlier, the Fish Development Corporation (FDC) had produced only 131, 146, 89 and 84 tonnes of fish, respectively, for the four years 1990-94. During this period, each year the FDC and the contractors had hired 140 fisherfolk, most of whom were outsiders. On the other hand, the Matsya Sangh engages as many as 477 fisherfolk and all are local, tribal, displaced people.

Regular income

One great achievement is that the people have been able to acquire a regular job and

This article, written by Yogesh Diwan and Yemuna Sunny, first appeared in *SAMUDRA Report* No. 30, April 2001

reasonable income. Today, each person earns around Rs. 90-100 (around US\$2) daily. Besides, 20 per cent of the catch goes to the fisherfolk who can either consume or sell them at their own prices. They are also entitled to bonus and other facilities. Apart from a fulltime employment for 10 months a year, the fisherfolk also get dole of Rs1 per kg during the closed season (15 June to 15 August).

This arrangement ensures a token salary during the period of joblessness and also safeguards against clandestine fishing. The Sangh paid nearly Rs2,450,000 during 1997-98 towards dole alone, apart from Rs3,044,000 as a whole year's remuneration. Earlier, the FDC and the contractors jointly used to disburse an average of Rs6,820,000 towards remuneration. The maximum amount paid by them towards wages was Rs1,120,000 during 1994-95, whereas the Sangh made a record payment of Rs1,109,000 in just the first three months, reaching Rs 4,746,000 in 2000-2001.

Similarly, the fisherfolk worked for 267 days in a year, as against 221 for the contractors hired by FDC. Apart from fishing, other assignments like transport, packing, sales, collection of fish seeds, boatbuilding and maintenance of office accounts are also managed by the local people, including plenty of women as well.

It is evident that the fish produced on such a large scale can not be consumed by the local market alone. So the Sangh began marketing in the bigger cities like Calcutta, Nagpur, Lucknow and Bhopal, where it had mixed experiences. It faced ups and downs on sale prices. Also, at times, the consignments got spoilt before they could be sold and occasionally, the Sangh had to pay higher cartage too. Although the Sangh tried to transport the consignments in insulated vans, its main thrust continued to be the local and nearby markets.

The Sangh also tried to help the fisherfolk to buy boats and fishing nets by arranging for

loans on easy terms. Many societies benefited from this arrangement. The preference for locally built boats and wholesale purchase of fishing nets from Mumbai proved to be cost-effective.

But the inaction of the government machinery is proving to be a hindrance for the Sangh. Constant vigilance had resulted in the apprehension of many poachers. But due to the laxity of the police and the administration, the criminals got away unpunished. Subsequently, the Sangh announced prizes for nabbing fish poachers. This brought down the incidents of poaching and nowadays theft is greatly under control.

Seedlings collected

Despite a lack of experience, the Sangh took upon itself the task of collecting fish seedlings, as the government and FDC had abdicated their responsibility in this regard. During 1997-98, nearly 2,613,000 seedlings were collected and released in the Tawa reservoir, which increased to 3,219,000 in 2000-2001.

This was, however, lower than the target of 3,600,000. The seedlings had to be collected from various places. The Sangh was also handicapped by a paucity of funds and absence of hatchery and nursery facilities. Hence, it had decided to earmark about Rs50,000-Rs100,000 from fish sale every month towards the purchase of costly seedlings. It also promoted fish culture and encouraged local people to breed fish seedlings in small natural ponds. This ensures a substantial reduction in both expenditure on transportation and the death rate of fish

The Sangh made a net profit of Rs29,400,000 in 2000-2001. In contrast, under the contractors and the FDC, there were recurrent losses year after year. Between 1991 and 1994, the losses were to the tune of Rs25,500,000, Rs47,100,000 and Rs34,200,000 a year, respectively. Thus, the Tawa experiment had not only benefited the displaced people but also made a substantial contribution of Rs1,570,000 to the public exchequer in 2000-2001 by way of royalty at

The Tawa experiment had not only benefited the displaced people but also made a substantial contribution to the public exchequer

the rate of Rs6 per kg. of fish. Within a period of five years, Rs6,737,000 of royalty had been paid (see Table 1).

Table 1: Royalty Paid
by Tawa Matsya Sangh

Year	Royalty (Rs mn)
1996-97	0.45
1997-98	1.18
1998-99	1.65
1999-00	1.89
2000-01	1.57
Total	6.74

Source: Annual Report, 2000-2001,
Tawa Matsya Sangh

But ironically, despite having contributed so much in royalty, the government has not seen it fit to provide the area with facilities like roads, water, lighting, education, etc. The Sangh also questions the wisdom of having to pay royalty, especially as the contributors are displaced people for whom the government had denied even survival necessities in the name of development (read the dam). Even otherwise, the attitude of the administration has not been one of goodwill or support. On the issue of the need to construct an ice factory, the government withheld the funds that were sanctioned by the Central government for the purpose. Further, the Sangh is not being allowed to use the government reservoir at Powarkheda (a nearby village), which is currently lying idle, for the breeding of fish seedlings.

23 December 2001 marks the completion of the five-year period of Tawa Matsya Sangh's right to fishing and marketing granted by the government. As yet, the Madhya Pradesh government has not taken any decision on its renewal. The irony of this hesitation is particularly striking, since the State is in the thick of a campaign on decentralization, tribal self-rule and people's participation. The Tawa experiment is a very sincere demonstration of all these three parameters. Yet, there seems to be a nexus amongst the bureaucracy, Matsya Maha Sangh (which

takes the place of the earlier Nigam or Corporation, now a State-level co-operative of the government) and local politicians and contractors to override the collective efforts of the people. Their attempt is to take away marketing rights from the hands of the Tawa Matsya Sangh.

Hence, the primary societies may get confined to fishing rights only. The marketing rights are being sought by the Matsya Maha Sangh of the Madhya Pradesh government. An official committee set up to look into the functioning of the Tawa Sangh and to recommend to the government a future course of action has not done its job. It has not consulted the federation officially; on the contrary, it has been giving it the cold shoulder.

Comparative performance

On 19 November 2001, in response to a question raised on this issue in the Madhya Pradesh State Assembly, a comparative picture of the performance of the Tawa Matsya Sangh and the earlier one of the Nigam (through contractors) was presented (see Table 2). The Matsya Sangh is way ahead in all indices of performance. This very clearly establishes the efficiency and sustainability of the Tawa experiment.

It is worthwhile here to recall the experiences of the Bargi co-operative (the forerunners of Tawa Matsya Sangh) at a similar juncture of functioning. The Chief Minister had assured the co-operative of renewal of its contract. But the instruction finally issued mentioned only fishing rights for primary societies. The marketing rights remained with the government (Matsya Maha Sangh). This implies that the status of the fisherfolk in Bargi would henceforth be that of wage earners only.

When the Chief Minister was again approached, he expressed surprise over such an outcome and the order was changed. But the Maha Sangh had already started functioning with the earlier order and had signed an agreement with a contractor. The

Table 2: Comparative Performance of FDC and Tawa Matsya Sangh

Year	FDC Management				
	1991-92	1992-93	1993-94	1994-95	1995-96
Fish Production (tonnes)	146.00	87.89	84.42	176.01	93.53
Employment (Full days)	20,520.00	67,935.00	32,037.00	30,719.00	10,640.00
Release of fish seedlings (100,000s)	24.08	17.65	27.48	17.96	34.21
Total income to fisherfolk (Rs100,000s)	7.53	4.55	4.92	13.69	7.97
Income per day per person (Rs)	36.69	32.11	15.02	44.59	74.91
Year	Tawa Matsya Sangh Management				
	1996-97	1997-98	1998-99	1999-00	2000-01
Fish Production (tonnes)	93.22	245.81	344.37	393.16	327.17
Employment (Full days)	17,255.00	44,589.00	50,826.00	56,854.00	59,500.00
Release of fish seedlings (100,000s)	31.59	26.13	27.90	29.47	32.19
Total income to fisherfolk (Rs100,000s)	10.62	27.72	44.25	45.27	41.34
Income per day per person (Rs)	61.55	62.17	87.00	79.63	61.00

matter was taken to court and a stay order obtained. Ironically, the government has not made any clear stand on the issue.

Tawa Matsya Sangh and Kisan Adivasi Sangathan envisage a distinct possibility of a repetition of the Bargi-type treatment in Tawa too. Hence, they are engaged in trying to pressure the government to take a sensible decision. Efforts are on to push the matter through a campaign by people's organizations (of the region and outside), the media, intellectuals and experts. The Sangh and the Sangathan firmly stand by the view that their hard-earned rights over the natural resources, along with the creative and collective efforts of the past few years, can not be simply taken away. With the slogan of "people's rights over water, forest and land", they have geared up to continue their struggle. ■

The Sangh and the Sangathan firmly stand by the view that their hard-earned rights over the natural resources, along with the creative and collective efforts of the past few years, can not be simply taken away

Jammed in Jambudwip

Sebastian Mathew

The traditional stake-net fishers of the ecologically sensitive Jambudwip island in West Bengal, India, face a likely ban of their seasonal fisheries

In the South 24-Parganas District of the State of West Bengal in India is the 20-sq km island of Jambudwip. Located about 10 km offshore in the southwest corner of the Sundarbans at the mouth of river Hooghly in the Bay of Bengal, the island can be reached in 45 minutes from the Frasergunj fishing harbour by *bhut bhuti*, a small powered country craft.

Jambudwip has been used as a site for fisheries camps at least since 1955, according to Bikash Raychoudhury's *Moon and Net* (published by the Anthropological Survey of India in 1980). *Behundi jal* or stake-net fishery is a traditional activity in different parts of the Sundarbans delta, on both the Indian and Bangladesh sides.

The largest stake-net fishing operation in the Sundarbans is based in Jambudwip. It is the *Jalia Kaibartha* community from the Chittagong hills that mainly practices *behundi jal* fishery in the marine waters of the Sundarbans. After India attained independence in 1947, the members of this highly enterprising fishing community settled down in places like Kakdwip, Namkhana, Sagar and Pathar Pratima in West Bengal, and Champaran in Bihar.

However, this traditional source of livelihood and sustenance is now under serious threat. The Central Empowered Committee (CEC), has said that the seasonal "occupation" of the Jambudwip island by fishermen and the fish-drying activity was a non-forest activity that cannot be permitted under the Forest (Conservation) Act, 1980, without prior approval of the central government. (The CEC was constituted by the Supreme Court of

India by a Notification on 20 June 2002 to provide relief against any action taken by the Central/State Governments or any other authority regarding, *inter alia*, deforestation and encroachments, and the implementation of legal instruments for forest conservation.) It has directed the West Bengal government to remove all traces of encroachment on Jambudwip island by 31 March 2003.

While the Fisheries Department of West Bengal under Minister Kiranmoy Nanda strongly defends the fishermen's claim to the seasonal use of the island, the Forest Department is bitterly opposed. The fishermen are now living in the shadow of uncertainty. Will their two-generations old fishery be treated as an activity eligible for regularization or will they be summarily evicted?

It was on 29 May 1943 that, under a Notification of the Government of West Bengal, Jambudwip became reserved forest as part of the protected forests in the Namkhana Division. As a result, no activity was allowed on the island, except those permitted by the Forest Department. From at least 1968 onwards, fishermen have been issued permits to use the island to collect firewood and to launch boats into the main creek.

Since 1989, Jambudwip has been part of the Buffer Zone of the Sundarbans Biosphere Reserve, where ecologically sound practices, including fisheries, are permitted (unlike the Core Area of a Biosphere Reserve, which is securely protected for conserving biological diversity). Jambudwip is, however, located outside the Sundarbans Tiger Reserve.

This article is by Sebastian Mathew, Programme Adviser of ICSF. This article first appeared in *SAMUDRA Report* No. 34, March 2003

The CEC visited Jambudwip on December 2002, in response to an application from the Executive Director, Wildlife Protection Society of India, seeking suitable relief against alleged encroachment and destruction of mangroves by fishermen.

The CEC’s report of 24 December 2002 directed the West Bengal government to remove all traces of encroachment on Jambudwip by 31 March 2003. However, the CEC observed that the proposal for fish drying on the island could still be considered, but only after obtaining clearance from the Ministry of Home Affairs and the Ministry of External Affairs for the fishermen involved, since some Bangladeshis were alleged to be involved illegally in the island’s fisheries.

The CEC denouement followed a series of events consequent to the Supreme Court order of 12 December 1996 on the issue of forest encroachment. Further to its Order of 23 November 2001 restraining the Central Government from regularizing all encroachments, the Ministry of Environment and Forests (MoEF) wrote to all States and Union Territories on 3 May 2002 to regularize *only* eligible encroachments before 1980 and to evict all other encroachments by 30 September 2002. The Forest Department, soon after receiving this letter from the MoEF, ordered the Jambudwip fishermen not to use the island and to remove their fishing implements from their makeshift sheds.

Subsequently, the Department set fire to the sheds and fishing implements in July-August 2002. The torching of bamboo-and-reed sheds and fishing implements is particularly intriguing since there was a Ministerial meeting held between the Fisheries and the Forest Departments on 9 August 2002. At this meeting, a decision was made, as reported in the press, to regularize the seasonal use of a demarcated area of Jambudwip for fish drying by fishermen holding identity cards issued by the Fisheries Department.

A subsequent letter dated 30 October 2002 from the MoEF even made provision for setting up district-level committees or commissions to settle disputed claims of eligible encroachments. But no such initiative was taken in the case of Jambudwip. The letter also revealed a softening of the MoEF’s position; the earlier rigid stand on “summary eviction” by 30 September gave way to “showing progress on the eviction of ineligible encroachments”.

Entry blocked

The West Bengal forest authorities, however, hardened their stand on Jambudwip. They erected concrete pillars at the mouth of the creek—the lifeblood of the fishermen and their fisheries—allegedly to block the entry of fishing vessels into the creek. On 12 November 2002, for the first time in the history of Jambudwip, ten fishermen drowned at sea during a cyclone, as they were unable to seek shelter in the creek.

Soon after the drowning incident, the National Fishworkers’ Forum (NFF), India, launched an agitation on 18 November 2002 against preventing seasonal fisheries camps and blocking entry of fishing vessels into the creek in Jambudwip. Subsequently, the Principal Secretary of Fisheries, West Bengal, informed the CEC that the West Bengal State Government had decided to permit fishing activity in Jambudwip on the ground that it has been continuing for almost 50 years.

The fishermen resumed fishing but they were still prevented from landing their catch in Jambudwip. On 25 November 2002, after removing a few of the concrete pillars erected by the West Bengal Forest Department, the fishermen entered the creek and sat in their fishing vessels in peaceful protest against being denied access to the island.

On 26 November 2002, the Chief Secretary of West Bengal wrote to the CEC requesting it to agree to the State Government proposal to allow the fishermen to resume fish-drying activities up to February 2003 as an interim

The West Bengal forest authorities, however, hardened their stand on Jambudwip. They erected concrete pillars at the mouth of the creek—the lifeblood of the fishermen and their fisheries—allegedly to block the entry of fishing vessels into the creek

• measure and to await a formal proposal on
 • the issue from the State Government. The
 • letter also contained viable proposals for long-
 • term solutions to the vexing issue, such as
 • allowing the seasonal fishery in a fenced area
 • along the seaboard of Jambudwip, with full
 • protection to mangroves beyond the fenced
 • area.

• Although it indirectly makes provisions for
 • resuming fish-drying activities for the 2002-
 • 03 season, the report of the CEC hangs like a
 • Damocles sword on the future of the
 • Jambudwip fishery. As we go to press, there
 • is still uncertainty if the fishermen could
 • resume their fishery from the year 2003-04.
 • About 3,000 fishworkers live on the island
 • during the season, staying in makeshift sheds
 • of bamboo and reed, repairing fishing nets,
 • sorting, drying and storing fish, while about
 • 3,500 fishermen engage in *behundi jal*
 • fishing in the adjacent sea. What makes
 • *behundi jal* fisheries possible is the unique
 • delta ecosystem and the community's in-
 • depth understanding of the inter-relationships
 • between the lunar cycle, oceanic currents
 • and the migratory behaviour of fish, in
 • conjunction with the dynamics of bottom
 • topography of the sea, including the pattern
 • of sedimentation and soil quality. The fishery
 • is marked by simultaneous capture, transport
 • and processing activities, with different sets
 • of people involved round-the-clock as one
 • unit under one *bahardar*, or fleet operator.

• In actual practice, it is like setting up two
 • camps: one on land and the other at sea, since
 • the fishermen who fish do not return to the
 • island until the end of the season, unless there
 • is a cyclone or some accident. The fishing
 • ground is connected to the fish-drying yards
 • by fish transport vessels that operate daily,
 • sometimes twice a day.

• The island—especially the creek during high
 • tide—is not only useful for unloading fish and
 • loading victuals for the fishermen staying on
 • the fishing ground, it is also beneficial as a
 • refuge from cyclones. Drinking water and
 • firewood are also available on the island.
 • Easy access to sufficient quantities of

firewood was a long-term requirement not
 only for cooking, but, more importantly, for
 boiling hemp fishing nets in natural dyes to
 make them invisible to fish in the thick mud
 These days though, firewood is used only for
 cooking since everyone has switched to nylon
 nets, which do not require any dyeing.

In the *behundi jal* fishery, a series of bag
 nets are fixed in the black, sticky mud in the
 seabed undulations called *khari* at a distance
 of about 25 nautical miles from Jambudwip.
 The *khari* has a combination of disintegrated
 mangrove wood and mud, and is an important
 source of food for bottom-feeder fish.
 Aggregation of benthic fish attracts other fish
 that predate on them. Both prey and predator
 fish become quarry for the fishermen.

Bag net design

Each fishing unit has about 20 bag nets. The
 bag net has an average length of 75 ft and
 has a 60-ft mouth. Ropes, corresponding to
 the water column depth, bind wings of bag
 net on either side of its mouth to metal stakes
 driven into the mud. The knots are ingeniously
 tied so that the mouth of the net always faces
 the water current, in both high and low tide.

The net is designed in such a manner that a
 strong current would take it to the bottom of
 the channel, while a weaker current would
 keep it at the midwater level. In the absence
 of a current, the net would float on the
 surface. Two hardy bamboo poles are tied
 vertically to the mouth of the net, 20 ft apart,
 to keep it open. The nets are fixed at depths
 of 12 to 15 fathoms. The high opening of the
 bag net, in synchrony with the currents, allows
 both demersal and midwater species to be
 caught.

In each of the *khari*, five nets are fixed in a
 row, as a cluster. Often, different *khari* are
 chosen to deploy the nets. Unlike the trawl
 net, which furrows the seabed, the stationary
 bag nets do not cause any damage to the
 seabed. The fish are emptied every six hours,
 at the time of the equilibrium between the
 high and low tides, when there are no
 currents, and when the mouth of the net floats

on the surface of the sea. Fish are emptied from the cod-end of the net; *doa*—the Bengali word for emptying the cod-end—can be translated as ‘milking’ the net. Each unit catches about 400 tonnes of fish in a single season. Two-thirds of the catch comprise species like Bombay duck, ribbonfish, anchovies, silver belly and wolf herring that are dried for human consumption and poultry feed. The remainder one-third comprises high-value species like shrimp, jewfish, catfish, Indian salmon, eels and rays, which are sold fresh. It is estimated that each unit catches fish worth Rs4 mn (approx. US\$80,000) in a good season. Putting all the units together, Jambudwip produces about 16,000 tonnes of fish worth Rs168 mn (approx. US\$3.4 mn) in a five-month-long fishing season.

According to Dr L K Banerjee, Retired Joint Director, Botanical Survey of India, who has worked on the mangroves of Sundarbans for the past 30 years, Jambudwip has successive stages of vegetation, comprising mainly *Avicennia* species of mangroves, and species of grass like *Porteraesia coarctata* and *Phoenix paludosa*. The species diversity on the island is not that significant. However, the satellite imageries of Jambudwip for the period 1981 to 2001 from the National Remote Sensing Agency (NRSA) furnished to the CEC by the Forest Department as “irrefutable proof” of mangrove destruction show dense mangrove vegetation coverage except in areas that are allegedly cleared by the fishermen. Moreover, since higher-resolution satellite images clearly showing deforestation to the detail that the NRSA images are claiming to portray have been produced in India only from 1998, the authenticity of the images as irrefutable proof for the period prior to 1998 needs to be independently verified scientifically.

Even if there is felling of mangroves on the Jambudwip island for firewood by the fishworkers, it is not an impossible situation to salvage since the *Avicennia* species of mangroves found on the island can be successfully regenerated. There are several

examples from India as well as other parts of the world. Moreover, the fishworkers are ready to move from firewood to liquefied petroleum gas for cooking purposes.

There are about 10,000 people dependent on the stake-net fishery today, as against a couple of hundreds 35 years ago. Instead of extinguishing the fishery, what is required is to recognize its salient aspects and mitigate negative impacts through better coastal area management, treating the island and the fishing ground within one framework. The Fisheries and Forest Departments have to develop mechanisms to collaborate with the fishermen to achieve this goal.

“I gave commands; Then all smiles stopped together”, the poet Robert Browning made the Count say in *My Last Duchess*. In the case of Jambudwip, it is high time to retract the command and bring back the smiles of the fishermen of the island. ■

What makes behundi jal fisheries possible is the unique delta ecosystem and the community’s in-depth understanding of the inter-relationships between the lunar cycle, oceanic currents and the migratory behaviour of fish, in conjunction with the dynamics of bottom topography of the sea, including the pattern of sedimentation and soil quality

Hijacked by neoliberal economics

Menakhem Ben-Yami

A fashionable neoclassical political-economic ideology has taken over the management of many fisheries

In the beginning, fish were aplenty and there were no rules upon the face of the deep, and the spirit of free access moved upon the waters. And the fishermen saw that it was good and fished as many fishes as they needed to feed their families and their neighbours. But people were multiplying and replenishing the earth, and more and more fishermen had to catch more and more fish to meet the demand of the ever-growing humanity. And governments said: let there be management, so that there would always be enough fish left in the seas to procreate. And they limited the gear, the vessels, the seasons, and the fishing areas, and they called it 'input regulation'. But, the fishermen kept fishing and their fleets kept growing, and the governments saw that it was bad. So they made licences, and their scientist thought up the maximum sustainable yield (MSY) and the total allowable catches (TACs). But the fishermen kept competing, and over-capitalizing, and the fish became scarce. And the economists said unto the governments: let there be property rights. And they spawned individual transferable quotas (ITQs). And they believed that it is good and said unto the fishermen: Behold, rights' privatization is your salvation. And the governments sent the ITQs upon waters to replenish the seas and subdue all fisheries.

And it was good! This is more or less the gospel, which prevails throughout fisheries administrations in many countries. It makes some people richer and they become its devoted believers and supporters, while the many made poorer—or afraid to become so—its adamant opponents. And the consequences in almost every single case are more or less gradual concentration of fishing

rights in fewer and fewer hands, often enough in the hands of major corporate interests, at the expense of small-scale, family- and skipper-owned fishing enterprises that operate one or two small or even medium-sized fishing vessels, each.

Fisheries management is supposed to look after the health of the fish resources exploited by fishermen. This requires knowledge of fishery biology and ecology, population dynamics, and historical data of the fishery and of environmental and associated stock fluctuations in its area. As fisheries management can only manage people, it entails negotiations, legislation, technology and enforcement. There is a whole catalogue of management systems and technical and administrative methods that managers can use to try to achieve their targets. The political attitude of the powers in charge determines the choice of the system and the manner in which it is applied through licensing, quotas allocation, or limits set on effort. The system chosen influences, through allocating benefits to the different stakeholders, the distribution of the benefits derived from the resource. For example, allocating fishing rights to a large number of small-scale fishermen would call for different management methods than allocating them to a large company.

Traditional knowledge

Old-type management by tribal and community leaders and local fisherfolk's organizations based on traditional knowledge of the resource and traditional justice, is now almost totally extinct. It has been replaced throughout most of the world by bureaucratic and technocratic mechanisms heavily influenced by political and economic

This article is by Menakhem Ben-Yami, Fisheries Management and Development Adviser, Israel, This article first appeared in *SAMUDRA Report* No. 35, July 2003

considerations that, while interested in fish as marketable merchandise and a source of profits to the operators, have only little to do with safeguarding the resource as a source of income to fishing people. Fisheries management has thus become a power play over benefits from the resource. Stakeholders are many, starting with fishing people and local interests in fishing communities, through recreational fishermen, environmental lobbies and coastal development interests, and ending with powerful corporations and market forces, whether local, national or multinational.

Neoclassical economics invaded the management of various commons and national resources as an extension of a paradigm dominant—though very much at issue—in the industrialized world. Its gospel is being spread over the world and its political, financial and academic institutions by troops of disciplined economists, rewarded for devotion, and punished for dissent. So, what is this neoliberal or neoclassical teaching in economics that has also impinged on fisheries? And on what basis are its devoted adherents preaching that theirs is the only way society can take to utilize its fish resources in a feasible and efficient manner?

The old ‘classical’ economic teaching introduced the belief in the ‘invisible hand’ driven by self-interest guiding rational individual decisions eventually into an optimum economy, in which free-market forces take care of all aspects of peoples’ lives. An implied outcome of such ‘free play’ is that any financial profit derived from a common, fully, partly or quasi-privatized resource would somehow trickle down and redistribute itself all over the society.

But this is a myth and a fallacious contention, if not an outright lie. It is common knowledge that, in most of the world’s countries, a big share of such benefits indeed trickles down, but to various investments abroad, and to imported luxury products and services. The ‘trickle-down’ theory can approach the real situation only in a few rich countries, where

profits feel secure and investments promise further accumulation of capital.

Recently, more and more economists and other social scientists have started casting doubts on the neoclassical gospel, nicknamed by some as ‘autistic economics’. Awarding the 2002 Nobel Price in economics to two professors, one of them a psychologist, who refuted the theory that, as a rule, individuals make rational economic decisions, reflected this growing criticism. Economic determinism inherent in the neoliberal theory does not work; the markets’ reaction to prices, the prices’ reaction to the dynamics of supply and demand, and peoples’ reactions and economic activities do not fit that theory’s assumptions. Hence, its weakness in economic analysis and forecasting.

Some economists and other social scientists argue that, contrary to its pretense to a scientific, objective approach, neoclassical economics is, in fact, a social-political narrative and a methodology used by global economic and political interests to concentrate power in the hands of corporate national and multinational institutions. Thus, individual businessmen and small and medium-scale private enterprises, not to speak of wage earners, are losing their influence on socioeconomic decision making to powerful commercial-industrial centres and their collaborators in governments. This transfer of power is promoted, legislated, and executed through democratic processes occurring within the existing legal framework with the help of well-financed journalistic and media campaigns and more or less biased scientific publications, with the neoclassical economic narrative serving as a tool for achieving the explicit goals and hidden agendas of its promoters. Thus, the ‘invisible hand’ has been transformed from the sum of the multitude of individual decisions into the sum of the political and economic decisions of powerful interests.

Profit maximization

Neoclassical economics is supposed to aim at and produce maximization of social and

Fisheries management has thus become a power play over benefits from the resource. Stakeholders are many, starting with fishing people and local interests in fishing communities, through recreational fishermen, environmental lobbies and coastal development interests, and ending with powerful corporations and market forces, whether local, national or multinational

national benefits, which, in fact, are dollar-equivalent measures of how economists value goods and services (including non-market goods and services). It preaches maximization of profits or rents often attained at the expense of heavy social costs. The big question is how these costs and benefits are defined and calculated; since social costs are very difficult to estimate, any portrayal of economics as an absolute, scientific methodology is simply fallacious, and honest economists admit that they cannot adequately calculate all social benefits and all social costs.

It is obvious that losses incurred through forfeiture of alternative actions, and due to various social and other external costs, many of which cannot be evaluated in terms of dollars and cents, are a part and parcel of any economy. As long as we do not take into account all the costs and benefits from production and market fluctuations, various management steps, social, economic and cultural dislocations of people and their ramifications affecting coastal communities, as well as other 'externalities' difficult to express in monetary terms, we are unable to calculate the true net social costs and benefits.

Also, many people associate the term 'social benefits' with how national resources are distributed across society. They ask, for example, how many people make a living from a certain resource. A 'less efficient' small-scale fishery that employs many more people than an 'efficient' big-owner fleet, may feed less monies to the 'national purse', but, as a rule, is directly and effectively more beneficial to people and their communities. Only an in depth analysis can establish which option would produce truer benefits and values. Thus, it is quite consequential who defines national and social benefits, and how.

For example, calculation of net national benefits for an industrial shrimp fishery in a non-industrial country must include a deduction of the costs of all imports, such as expatriate manpower, fuel and lubricants,

vessels, deck and propulsion machinery, processing and refrigeration equipment, and fishing gear, as well as insurance and maintenance costs incurred in foreign-currency. In some cases, the only net benefits from an industrial shrimp fishery in such countries are the revenues from licence fees and the employment of nationals, while the major share of the revenues as well as the product itself goes abroad.

Policy costs

Therefore, responsible economic theory must take into account also values that are non-financial/commercial, and the diverse peripheral socioeconomic, political and cultural costs, as well as the taxpayer's money spent on dealing with human problems resulting from management decisions. Only then would the society and its governments be informed of the *true costs* of any policy proposition, before their natural resources get transferred into the hands of a few. Nowadays, however, such transfer is facilitated by governments' obsession with privatization as a panacea for all maladies of the economy.

The neoliberal gospel preaches that practically nothing can work efficiently, if it is not somebody's private or corporate property. The massive ideological privatization practised in some countries has embraced also such natural resources as water, forests and various energy sources as well as public transport. Even economically viable, and efficiently run national resources often fall victim to the privatization Moloch. How wrong this ideology can be has been recently well illustrated by a whole series of flops of some mammoth privatized and corporate companies, due to both, mismanagement and corruption, as well as by the rather disappointing results of the privatization of the British railway system. Swissair, PanAm, Enron and other recent bankrupt giants were not run by governments.

One consequence of the domination of neoclassical economics is the rather obscure struggle between *free enterprise* and

corporate interests. In the past, the conception of capitalism and free markets used to emphasize private initiative. Nowadays, however, it isn't necessarily so. Neoclassical economics is leading to a regime in which major businesses and corporations are gradually displacing smaller-scale enterprises and businessmen, while being indifferent towards the social conditions of working people, whose role it reduces to selling their work power on the market. It is 'happy' when supply of labour exceeds demand, because unemployment depresses wages and improves profits.

Some time ago, after the demise of the Soviet system, one would think that free enterprise had won. One is not so sure nowadays. Like the Soviet monopolistic concerns, some of the giant companies of the 'capitalist' world are run by financial bureaucracies supported by ideological economists, who seem to consider small and family-owned enterprises a noise and a nuisance in their concept of 'economically efficient' world.

The invasion of fisheries by neoclassical economics has been a logical consequence to its domination of the global, and many national, economies. Like many historical invasions, it was partly invited from inside the fisheries by large-scale interests and their proxies in the management mechanisms, who gave it a friendly reception. Once in, it seems to be here to stay, especially in all those countries where, for various reasons, it is not met with strong opposition.

What brought this ideology into the fisheries is its claim that privatization is the most efficient, if not the only, mode of exploiting a resource. This, even if the resource belongs to the whole nation, as is the case with water, forests and, for that matter, fish in the sea.

When, following the Second World War, the spiralling growth of fisheries brought about the need for management, it was initially based on so-called 'input control'. This implies regulation of fishing effort through such means as limited access, fishing time and

areas, as well as other regulations that try to follow the biological characteristics of the species involved. In some countries this management system still works well enough; in others it has been deemed, rightly or wrongly, inadequate. Fish population dynamics models have been used to estimate the biomass of fish populations and, consequently, the fixing of TACs. In some fisheries this led to highly competitive 'gold rush' fishing operations and investment in excessively strong and fast vessels. The next step was dividing the TAC into quotas that were allocated to vessels, usually, according to their fishing history. And this was the moment when the neoliberal economists stepped in with a new pattern: marketable fishing quotas (ITQs).

Property rights

They introduced the rather axiomatic theory that property rights are a must in fisheries for maximum benefit and efficiency, spelled out in financial terms and rational exploitation of the resource. Since property rights are characterized by (i) security, or quality of title; (ii) exclusivity; (iii) permanence; and (iv) transferability, their application in fisheries boils down to ITQs. Thus, mere 'fishing rights' have become 'private property rights'. Trade in fishing rights eventually must hit the weaker stakeholder by allocating individual quotas too small to pay a vessel owner's way out of the red, on the one hand, and by pricing licences and quota entitlements above the value of his/her fishing boat and gear, on the other.

A licence gone from a fishing community is gone forever, together with all the associated jobs, services and income. If it were not for social opposition, a worldwide adoption of ITQs would have proceeded faster.

Since marketable quota systems favour the financially stronger, they invariably lead to a gradual displacement of small-scale individual or family-owned fishing enterprises, and, sooner or later, to the concentration of fishing rights in the hands of a few, either specialized fishing companies, or large holding corporations for whom fishing may be only

The invasion of fisheries by neoclassical economics has been a logical consequence to its domination of the global, and many national, economies. Like many historical invasions, it was partly invited from inside the fisheries by large-scale interests and their proxies in the management mechanisms, who gave it a friendly reception

• one branch of a multifarious business. Such
 • concentration would eventually occur even
 • where there are legislative attempts at
 • stipulating acquisition of quota by some
 • maximum values. Hence, there is a growing
 • concern of ‘privatization by stealth’.

• It is incredible that managers introducing this
 • system into small-scale or mixed fisheries
 • would be unaware that its social, economic
 • and political ramifications favour large-scale
 • business at the expense of local fisheries and
 • processing industries, and small-scale
 • operators, and threaten the survival of the
 • small-scale fishing sector. ITQs tend to
 • depress artisanal fishers and effectively
 • exclude part-time participants in local
 • fisheries, and favour the owners, while
 • disregarding crew members. Hence, the
 • selection of ITQ for such fisheries must
 • reflect the political and social attitudes of the
 • respective governments.

• Green non-governmental organizations
 • (NGOs) have willy-nilly contributed to the
 • privatization trend. Although some of them,
 • for example, Greenpeace, have joined
 • protests against ITQs, there have been NGOs
 • with often exaggerated and sometimes even
 • fallacious alarmist publications on the state
 • of fishery resources, painting the fishermen
 • as the main culprits, which fueled the
 • neoclassical economists’ fires. ITQ advocates
 • have claimed that privatization based on
 • marketable fishing quotas would maintain fish
 • stocks at sustainable levels.

• **Gold rush**

• Their main argument was: “If fishing interests
 • are allowed to invest in a permanent share
 • of the TAC, so that they’d be sure of their
 • relative share in the landings of the respective
 • species from a given area, they wouldn’t
 • need to apply the ‘gold-rush’ mode of
 • operation, and would be interested in
 • maintaining the resource in an everlastingly
 • sustainable condition.” On the other hand,
 • ITQs are a rather peculiar sort of property
 • rights: one pays, sometimes quite heavily, for
 • the right to catch a certain amount of fish;
 • one never knows whether one will be able to

get it and at what operational cost, and one
 doesn’t really control the resource and
 doesn’t know whether by observing the rules
 and sticking to the quota, one is not made a
 sucker by others.

Hence, the potential well-intended
 stewardship over the resources by quota-
 owners is, in fact, more than often frustrated
 by high grading, fish dumping and quota
 busting. While ITQs indeed mitigated the
 ‘gold-rush’ fishing, and their contribution to
 stock conservation might have happened in
 a few fisheries, it has been proved so only in
 a couple of them. At the same time, failures
 have been reported and documented.

The ITQ system would be socially and
 nationally justifiable where the resource is
 technically not accessible to small- and
 medium-scale operators based in coastal
 fishing communities, and where exploitation
 of the resource requires large-scale industrial
 fishing vessels and fleet logistics.

But where large numbers of small-scale
 operators traditionally exploit inshore and
 coastal resources, most of them consider
 marketable quotas socially and also
 economically wrong. Harvesting methods
 that are most efficient in financial terms are
 often the ones with the worst collateral
 (including environmental) impact, while less
 capital-intensive and technologically and
 operationally sophisticated fishing methods
 normally allow wider and much more
 equitable access to benefits from the fishery,
 with less negative environmental and social
 impacts.

In Third World countries, for example, coastal
 fisheries operate under many stresses, the
 main one being invasion of larger-scale
 fisheries into waters and stocks accessible
 to, and fishable by, small-scale fishermen,
 often with official government support or
 high-circles’ well-paid ‘closing of the eye’.

But, in such areas, large-scale operations are
 less *efficient* than small-scale fishing. They
 consume several times more fuel per tonne

of marketable fish than the small-boat fishery; capital investment in gear and vessels is higher; and they produce fewer *true national benefits*.

The same fish stock that can be fully and profitably exploited by 10 trawlers manned by 100 people, if allocated exclusively to coastal fisherfolk using nets, pots and hooks-and-lines, may provide a living to many hundreds, or maybe thousands of them, never mind how low their calculated profits are going to be.

In many areas, both recreational and small-scale commercial fisheries form the backbone of coastal communities whose economies revolve around fishing. It causes money to flow to equipment and bait, food and fuel suppliers, boatyards, and a variety of commercial and technical services in docks, harbours and marinas, as well as those sectors of the tourist industry that are centred on fishing communities.

Hidden agendas

No doubt, management decisions depend first of all on the prevailing policy objectives. Different governments and the powers that influence them may have different, above-board and hidden agendas. Hence, worldwide, there is no consensus on the objectives of fisheries management. Some governments may believe that safeguarding the well-being of communities where fishery is an important contributor to the local and, thus, national economy is an important goal. ‘Safeguarding the well-being’ means creating and maintaining conditions that would enable the fishing industry to get an adequate return on investment, and fishing people, sufficient take-home incomes.

It also may mean that in certain special circumstances, the State may have to intervene to help a community over a temporary hardship, as it would do for farmers hit by a drought year, or an industrial community hit by an earthquake. Isn’t that what governments are for: collecting taxes, providing services, and helping in trouble?

But some governments, as well as most global, transnational and intergovernmental financial institutions are driven by the neoclassical ideology, especially when it comes to economic relations with developing nations. Undeniably, some of the conditions of economic co-operation and assistance imposed by those institutions stem from their wish to protect their investments from misconduct, corruption and mismanagement. But, only too often, under the hypocritical pretext of securing free markets and economic liberalization, their conditions are simply a tool of protectionism. And here we come to fisheries subsidies. The United States, the European Union (EU) and some other developed countries, in view of the heavy overcapitalization of their fishing fleets, came to the quite appropriate decision to stop subsidizing the construction of fishing vessels. They want, however, to have their new policies ‘globalized’ to cover also the developing world.

A number of developing countries too have had, for many years, large national fleets, and they should not subsidize overcapacity as well. Any international agreement involving fishery subsidies should take into account small-scale fishermen, who have to compete for the local fish resources with large-scale fishing fleets allowed to fish or poach on their native, traditional fishing grounds. Such fleets are subsidized, almost as a rule, whether directly or in a roundabout manner, as are the EU payments for access to fishing grounds of Third World nations. Small-scale fisherfolk operating under such conditions deserve support both on the part of their own respective governments, as well as the international community. Would it be too much to ask the EU, and individual governments of countries whose fleets are out to exploit coastal fish stocks of their own or other countries, as well as the governments who allow such fleets into their coastal waters, to give them a fighting chance?

Fisherfolk in the small-and medium-scale sectors both, owners and hired hands, who do not want to be dislocated from their

Any international agreement involving fishery subsidies should take into account small-scale fishermen, who have to compete for the local fish resources with large-scale fishing fleets allowed to fish or poach on their native, traditional fishing grounds

Towards artisanal fishing zones

Recognizing the artisanal zone is an important first step towards recognizing and supporting the artisanal and small-scale sector

The struggle by artisanal fishers in Peru has been in the news of late. They are demanding that the integrity of the five-mile artisanal fishing zone be maintained, in the face of recent moves to open up 'windows of penetration' to allow large-scale industrial fishing in the southern part of the country (see *The Holy Grail*, pg. 42).

Starting in the 1970s, several countries around the world have established artisanal fishing zones. In many cases, the declaration of such zones was a response by States to the growing conflicts between the large-scale and the artisanal sectors, as in India and Indonesia. Faced with increasing and unequal competition from the technologically efficient large-scale sector, artisanal fishworkers in many countries expressly demanded the establishment of these zones.

That such zones can play an important role from a social perspective is undeniable. Millions of people in the developing world depend on fisheries for a livelihood, and a majority of them fish in coastal and nearshore waters. Their livelihoods, as well as the fisheries resource base, are known to be directly and indirectly jeopardized by the activities of industrial and large-scale fleets using destructive gear, such as bottom trawls, in coastal waters.

From a fisheries management perspective too, the logic for the establishment of artisanal zones, where only selective fishing gear and techniques are permitted, is incontestable. Coastal and inter-tidal areas are known to be highly fragile, productive and important as spawning and breeding grounds. As such, a regulation that allows only selective and responsible fishing in such zones, in

combination with other management measures, could be very effective.

These issues are to be discussed at a workshop that the International Collective in Support of Fishworkers (ICSF) is organizing early next year, titled *Sustaining Fisheries and Livelihoods in Latin America: The Imperative of Secure Access Rights for Artisanal Fishworkers*.

In deciding on measures that could support the small-scale and artisanal sector, the changing context and the dynamism within this sector must also be kept in mind. It would be inappropriate to see the artisanal zone as a 'box' within which the small-scale sector is confined. The small-scale sector, in many parts of the world, as in the Philippines, Senegal, India, Sri Lanka, Peru and Chile, has convincingly demonstrated its ability to harvest highly migratory resources, such as tuna and shark, in a sustainable manner, in deeper waters within the exclusive economic zones (EEZs). To the extent that small-scale fisheries for such species is technologically and environmentally efficient, and leads to socially desirable outcomes such as greater employment and equitable distribution of income, it must be supported through specific policy measures.

Recognizing the artisanal zone is an important first step towards recognizing and supporting the artisanal and small-scale sector. The struggles of artisanal and small-scale fishworkers for maintaining the integrity of the artisanal zone, as in Peru, can not but be backed. By demonstrating enough political will, States can design and implement fisheries management measures that meet the goals of both equity and sustainability. ■

Millions of people in the developing world depend on fisheries for a livelihood, and a majority of them fish in coastal and nearshore waters.

This editorial comment first appeared in *SAMUDRA Report No.39*, November 2004

The Holy Grail

Brian O’Riordan

This article examines the background to the changes now being proposed for the status of the artisanal fishing zone in Peru

In several Latin American countries, the complementary objectives of securing artisanal fishing rights and conserving marine resources are enshrined in law. Thus ‘artisanal fishing zones’ have come to be recognized as special kinds of marine reserves, where small-scale fishing is allowed to take place without interference from larger-scale activities. Intensive, non-selective and destructive fishing activities (often referred to as ‘industrial fishing’, and geared to the production of fishmeal) are banned from these close-to-shore zones. The recognition of reserved artisanal fishing zones has, in many cases, come after long and hard-won (and ongoing) struggles, particularly in the two neighbouring Southern Cone countries of Chile and Peru. Here ‘exclusive artisanal zones’ have been established within a boundary of five nautical miles from the shoreline.

Despite these advances, artisanal fishing zones are subject to continuing incursions, both legal and illegal, by industrial and large-scale fishing operations. Clashes are also increasingly prevalent between artisanal fishing communities and aquaculture enterprises. Again, aquaculture enterprises may operate both legally (through being granted concessions) or illegally. In some Latin American countries, aquaculture enterprises have been set up illegally following violent (often armed) seizure of land and the intimidation of local communities through killings and torture.

In addition, it is an unfortunate fact of life that some government functionaries are not impartial actors in the decision- and law-making processes. In many countries, the

investment sector (for intensive aquaculture and industrial fisheries) often carries more political clout than small-scale fisheries. Worse still, high-ranking government officials may also be the captains of those very industries seeking to gain access to conservation areas reserved for artisanal fishing.

In Chile, *Ecoceanos News* of 15 October 2004 reports that allegations of ‘illegal enrichment’ have resulted in a Special Parliamentary Commission being set up to investigate the ‘black market’ in aquaculture concessions. Aquaculture concessions are allocated free of charge, and with no time limit set. The only requirement is the payment of a nominal annual charge of between 60,000 and 120,000 pesos (approximately US\$100-200). The owner is then free to lease or sell these freely acquired concessions. *Ecoceanos* reports that in some regions such concessions may sell for as much as US\$1 mn.

In August 2001, the Chilean Fisheries Subsecretary, Daniel Albarán, resigned amid allegations of corruption and professional misconduct. Albarán was, at the same time, the chairman of several aquaculture enterprises and Fisheries Subsecretary. In his public function, he was responsible for approving large numbers of aquaculture concessions. In business, he had an interest in how concessions were allocated. He may well come under the scrutiny of the Parliamentary Commission.

Aquaculture concessions

Likewise, in Peru, the handing out of aquaculture concessions in traditional fishing

This article has been compiled by Brian O’Riordan, based on correspondence with various organizations, and news items and official documents available on the Internet. This article first appeared in *SAMUDRA Report* No. 39, November 2004

areas, in both the coastal areas and inland waters, has been strongly criticized. There have been fierce conflicts between artisanal fishermen and aquaculture enterprises over issues of access rights in several fishing communities along the coast—Chimbote, Samanco, Casma, Callao, Pisco and Ilo.

Given a situation of increasing insecurity, and faced with growing threats to their livelihood rights from competing interests, artisanal fishworkers from Chile and Peru have recently committed themselves to establishing an International Commission in Defence of the Five-Mile Zone. The commission was established earlier this year during the Second Bi-national Peru-Chile Artisanal Fishermen’s Meeting that took place in the northern Chilean city of Arica, from 1-2 July 2004. Then, in September 2004, in the Port of Ilo, Peru, the commission organized an International Forum on Artisanal Fishing to widen the network and to articulate more clearly the demands of artisanal fishworkers. In parallel, non-governmental organizations in the Southern Cone region, from Chile, Argentina and Uruguay, met in July 2004 to set up a Southern Cone Coalition to promote sustainable fisheries and social equity in the region.

In 1992, an area was legally reserved for artisanal fishing in the nearshore waters of Peru through Supreme Decree D.S. 017-92. This established the zone adjacent to the coast: “comprising the area between zero and five nautical miles, as a conservation zone for the flora and fauna that exist there”. “Carrying out fishing activities for direct or indirect human consumption with purse-seines, and with other methods, gear and fishing devices that modify the biological conditions of the marine environment” is banned. The decree was passed due to “the serious interference of industrial fishing fleets and fleets fishing for direct human consumption in zones declared as the exclusive reserve for the operation of artisanal fishing vessels.” It recognizes the importance of this zone for “upwelling and the breeding of the principal fishery resources that sustain the fishery for direct

human consumption”, and the need to “establish measures conducive for its protection”.

In 1995, another Supreme Decree modified some of these conditions, and clarified that the ban on purse-seining refers only to industrial fishing, and not to artisanal fishing. It also clarified that the 0-5 nautical mile zone is reserved for artisanal fishing and, as such, that artisanal purse-seines may be used in the zone, so long as they comply with the criteria set by the Ministry of Fisheries.

Fierce conflicts

But the permission granted to artisanal purse-seining activities in the five-mile zone has led to fierce conflicts in the northern region of Tumbes. Thus, in August 2004, the Peruvian Ministry of Production was forced to call in the navy to establish control measures on the activities of the so-called *vikingos chicos* (little vikings) and *bolichitos* (mini-purse-seines) in the sea around Tumbes.

The 1995 modification also makes the ban conditional on the technical opinion of Peru’s Marine Institute (IMARPE). And here lies the bone of contention for artisanal fishermen in the south of the country, notably those from the port town of Ilo. In February 2001, IMARPE published a technical report, titled *The Problematic of the Five-mile in the South of Peru and Technical Alternatives for Its Management*. The report observes that, in the south of the country, the distribution and concentration of the main fishery resources are localized in the zone 10 miles from the coast. This is due to climatic and oceanographic factors, and the presence of a very narrow continental shelf. In this southern region, the shelf width averages five nautical miles, but ranges from a maximum of 13 nautical miles to less than two (compared to 70 nautical miles in the northern region around Chimbote).

IMARPE notes that the concentration of fishery resources becomes more pronounced in summer (between December and March), especially in the five-mile zone. Its report provides an overview of oceanographic

There have been fierce conflicts between artisanal fishermen and aquaculture enterprises over issues of access rights in several fishing communities along the coast

conditions in the southern region, and describes the spawning behaviour of the Peruvian anchovy. Known locally as *anchoveta* (*Engraulis ringens*), it is the main species targeted by industrial fishing activities supplying the fishmeal processors. The report then goes on to describe the activities of both the industrial and artisanal fishery in the south of the country.

In Peru, some 700 marine species are legally classified according to whether they are destined for direct human consumption (some 150 species) or for industrial purposes (two or three main species, including anchovy/anchoveta—*Engraulis ringens* and *Anchoa nasus*—and sardine). In fact, it has recently become national government policy to mobilize supplies of fish (scad, locally called *jurel*, and mackerel, *caballa*) to address the problems of widespread malnutrition amongst the low-income segments of the Peruvian population.

This has been enshrined in law through Supreme Decree D.S. 021-2004, which establishes special conditions for the catch of industrial fishmeal vessels to be used for human consumption. But FIUPAP is highly critical of this, pointing out that the industrial sector targeting these resources is already showing overcapacity. Rather, priority should be given to developing the artisanal sector and providing market support to ensure that fishermen obtain a fair price, and low-income consumers an affordable food.

IMARPE's 2001 report documents the significant increase in fishmeal processing capacity since 1997 in the south of the country, and the resulting increase in fishing effort for anchovy, particularly in the summer. In the period 1990-95, the industrial fleet operating out of the port of Ilo remained more or less constant, reaching a maximum of 85 vessels in 1992. By 2000, vessel numbers had increased to 165, with a peak of activity in the summer months.

In the period 1991-92, more than 60 per cent of the southern industrial fish catch (for

fishmeal) was taken within five miles of the coast. During the summer months between 1993 and 1997, this rose to 80 per cent. The report also notes that, in most years, anchovy represents more than 80 per cent of the industrial catch. It refers to an additional 10 species caught by the industrial fleet classified as species for human consumption, but claims that industrial fishing activities have had little impact on the mainstay species of the artisanal sector.

In a subsequent report on artisanal fishing in the zone 16°S - 18°20'S, IMARPE states that over the period 1996-2002, 65 per cent of the artisanal fishing fleet's activities were carried out in the 0-1.5 mile zone, and 99.5 per cent within the 2-5 mile zone. These observations have been hotly contested by the artisanal sector. They claim that part of the sector has been forced to retreat inshore to avoid interference from the industrial sector.

New sector

Also, in the last few years, a new deep-sea sector has developed, and artisanal fishing boats range as far out as 150 miles to catch *perico* (*Coryphaena* spp) and sharks (*Tiburón diamante* and *Tiburón azul*).

The IMARPE study only looked at activities in the five-mile zone, and not outside it. As such, it provides an incomplete picture. Also, it only looks at interference between sectors, and not into sustainability issues. The Ilo fishermen, therefore, contest the validity of the report and its use for policy decisionmaking.

The IMARPE report states that "due to the greater concentration of fishery resources in the coastal zone in the summer months, the application of a seasonal exception is justified in this period, that would allow for less interference with artisanal fishing. As there is a much smaller artisanal fleet South of 18°s (that is, up to the Chilean border), free fishing should be allowed in this area during this period." The report goes on: "One measure that could be applied is that when industrial

fishing vessels fish inside the five-mile zone and catch fish classified as being for human consumption, these could be given to the artisanal fishermen,” with the caveat that “so long as catch controls are improved for the bycatch of fish for direct human consumption. This would also require improving the port infrastructure (the artisanal fishing quays) and establishing marketing channels.”

For the artisanal fishermen, the conclusions and recommendations provide stark prospects. According to IMARPE, the applicability of the five-mile zone law in the south of the country is not in line with the seasonal oceanographic variations and changes in species abundance.

They, therefore, recommend that “during the summer, there should be a seasonal exception to the five-mile law”. This would involve allowing the industrial fleet to fish within three miles of the coast in a belt of about 120 miles (16°S to 17°59’ S). From 18°S to the Chilean border, industrial vessels would be allowed to fish freely right up to the coast. “In all cases, bycatch of species for human consumption should be handed over to the artisanal fishing community.”

In December 2003, these recommendations found their way into Peruvian fisheries law. Supreme Decree No 037-2003 calls for a special fisheries regime to be established for anchovy in the southern region, from 16°s to Peru’s border with Chile. It proposes that larger-scale purse-seiners be allowed access to specified areas (so-called ‘penetration windows’) within the artisanal five-mile zone.

The law also establishes that a special, non-Statal, financing mechanism (FONDEMPASUR) be set up for the development and modernization of the artisanal fishing sector in the southern region. This is to be financed by a levy placed on each metric tonne of fish landed by licensed industrial fishing operations.

The law also specifies that all fish caught other than anchovy should be handed over to the authorities at the nearest artisanal fish landing quay, or to the most representative organization of artisanal fishermen. Permission is also given to the owners of artisanal fishing vessels to catch anchovy, and, under exceptional circumstances, sell it for human consumption.

In effect, the industrial sector is required to set up a compensation fund in exchange for being given these ‘windows of penetration’, and is being ordered to do the artisanal fishermen’s work of catching fish for human consumption.

This decree is more or less exactly what the industrial fishing sector had been lobbying for. It is strongly backed by the southern fishmeal producers organization, APROSUR, which claims that in 2003, due to the lack of nationwide access to the five-mile zone, some US\$ 95 mn worth of foreign exchange from potential fishmeal exports was lost to the nation, and further, that in the southern region, a potential US\$17.33 mn and 4,000 jobs were lost due to fishmeal plant closures. They say that the IMARPE report completely vindicates their claims.

Coastal fishing

“The (artisanal zone) decree applies to the whole coast without taking into account the difference in the nature of the coastline in the south and the north. While in Chimbote, the shelf extends to 70 miles, in Ilo, it hardly reaches 3.5 miles. This means that the (southern) industrial fishing has to be predominantly coastal,” they say.

They claim that reserving the five-mile zone for artisanal fishing makes their industry less competitive than Chile’s. “The anchovy that is not caught by the Peruvian fleet is caught by the Chilean industrial vessels,” they say. APROSUR and the National Society of Fishing Vessel Owners (SONAPE) have been actively organizing demonstrations and other lobbying

Applicability of the five-mile zone law in the south of the country is not in line with the seasonal oceanographic variations and changes in species abundance

efforts to raise public awareness and influence the political processes in their favour. The artisanal fishermen of Ilo have strongly challenged both the IMARPE findings and the claims of the industrial fishing sector. They accuse the Minister of Production, Javier Reátegui Roselló, of being both judge and jury, given his personal interests in the fishmeal industry. In their view, allowing ‘windows of penetration’ for the industrial fishery in the south is tantamount to ruining the fishery.

According to them, the anchovy and other fishery resources of the south represent a natural resource bank. It is of major importance as a feeding and spawning area, which is disrupted and harmfully transformed by industrial fishing activities.

They claim that “measures like making exceptions to closed seasons in the south or making penetration windows in the border area for the industrial fishery are irrational, and undermine the sustainability of the fishery by not guaranteeing any resource or income for tomorrow.”

They report that there are around 1,500 organized artisanal fishermen based around the port of Ilo. The main organization is the Sindicato nico de Pescadores Civiles del Puerto de Ilo Artesanales-Buzos (SUPABCPI), which is a member of the national artisanal fishermen’s federation, FIUPAP. They claim that there are a similar number of unorganized fishermen in the region as well.

Artisanal fishing activities around Ilo, which are all aimed at producing food for human consumption, are diverse: mini-purse-seines (*bolichito*), gill-nets, high-seas fishing, launch (*pintero*) fishing, line fishing, shellfish gathering, and diving using both compressors and aqualung.

Over the last 10 years, these activities have undergone considerable change. For example, there are very few launches (*pintero*) and gill-nets (*cortineros*) today. The artisanal fishers claim that the root cause

of these changes is the impact of industrial fishing.

On the one hand, the inshore sector has been increasingly pushed toward the shore to find areas inaccessible to industrial fishing vessels. This has resulted in localized overfishing and a particular demise of the shellfish resources.

In response, closed seasons have been established, although no seasonal bans on the sale of closed-season species have been applied. This has tended to encourage illegal fishing. Traditional fishing areas have also been designated as areas for aquaculture concessions, putting further pressure on fishermen and resources in the increasingly restricted areas where they can fish.

On the other hand, an offshore artisanal fishing sector has developed in the last few years. Due to interference from the industrial sector, artisanal fishermen have been extending their range of operations to as far out as 150 miles, according to Ilo fishermen. But conditions are very harsh, with fishermen spending more than two weeks away from their families, and working in extremely dangerous and exposed conditions. Not only are there significant investment costs to be made in navigation equipment and fishing gear, but, with dramatically increasing fuel prices, this fishery is also becoming an economic struggle, particularly as fishing trips may clock up distances of 700 miles.

Since its introduction, the December 2003 Supreme Decree has been hamstrung by the extreme polarization of the situation. In January 2004, the Ilo fishermen initiated a ‘Peruvian Five-Mile Zone Defence Committee’, supported by fishermen from Arequipa, Ilo and Tacna. This was followed up by a number of strikes in the south, aimed at disrupting fishing and related activities.

These local activities took on national significance when, at the end of March 2004, FIUPAP called for an indefinite national artisanal fishermen’s strike starting on 5 April. This was scheduled to coincide with the start

Final Statement of the Ilo Forum

The first International Forum on Artisanal Fishing convened by the International Defence Committee of the Five-Mile Zone, meeting from 29 to 30 September 2004 in Ilo, Peru, declares that:

The conservation of marine biodiversity and the protection of fishery resources are fundamental in assuring a supply of indispensable food for humanity, as well as in assuring the livelihoods of the communities that depend on fishing.

The coastal zone within five nautical miles is prerequisite to the conservation of resources, providing an area for spawning, growing and nutrient upwelling, and, for these reasons, it should neither be subject to intensive fishing activities nor used as a dump for the industrial wastes that destroy it.

For these reasons, industrial fishing activities should be excluded from this zone, which should be used exclusively for artisanal fishing with selective and non-destructive fishing gear. Under no circumstances should industrial fishing be allowed in this zone through 'windows of penetration'.

In order to ensure its own sustainability, the industrial fishing sector should try to overcome its dependence on fishing for fishmeal, and target a greater variety of species for producing value-added products, following the principles of responsible fisheries and with greater benefits for the fishing communities.

In order to ensure the sustainable management of fishery resources and the marine environment, as well

as the full participation of fishermen in decisions that affect them, we demand that the FAO Code of Conduct for Responsible Fisheries be turned into an International Treaty with the force of law.

The application of individual transferable quota systems fragments and divides artisanal fishing communities, depriving them of their rights and transforming them into a low-cost workforce for the industrial sector, due to which we reject their implementation.

In the case of Peru, we demand the lifting of Decree 037 that establishes 'windows of penetration' and the aspects of the fisheries law that allow these kinds of rules; in the case of Chile, we demand the lifting of the regime of 'windows of penetration' in the north of the country and an end to the quota system; in Mexico, we demand that Rule 002 that prohibits trawling in the five-mile zone be respected; and with regard to Argentina, Uruguay and Brazil, we express our concerns and reject the development of an anchovy fishery for fishmeal, which threatens the ecosystems of the region.

We call for the Second Forum of the International Commission for the Defence of the Five-Mile Zone to be implemented on the 29 and 30 September 2005 in Sinaloa, Mexico.

Also, and on the invitation of the Chilean delegation, we have decided to meet again during 20-22 November in Valparaiso, Chile, where the Congress of the National Confederation of Artisanal Fishermen will be held.

The conservation of marine biodiversity and the protection of fishery resources are fundamental in assuring a supply of indispensable food for humanity, as well as in assuring the livelihoods of the communities that depend on fishing

of the Holy Week, a time when many Peruvian families traditionally eat fish. Subsequently, FIUPAP asked the Food and Agriculture Organization of the United Nations (FAO) to intervene formally in the process, claiming that Article 6.18 of the FAO Code of Conduct for Responsible Fisheries supported their claims for a five-mile zone, and was a just cause for complaint.

On 1 April 2004, the Ministry of Production suspended the implementation of the new access regime for three months. At the same time, an Enquiry Commission was established to evaluate the proposed new fisheries

regime, and to report within 75 days. This 'temporary suspension' has since been renewed twice—on 1 July for 90 days, and then, most recently, on 4 October 2004 for a further 90 days, up to January 2005. The most recent suspension came four days after the first International Forum on Artisanal Fishing, and was considered a victory.

But although a battle may have been won, the 'windows of penetration' law still poses a very clear and present danger. It is only a matter of time—three short months before the current suspension expires. In the meantime, the government and industrial

...the artisanal fishermen of Peru continue to protest, to organize themselves in readiness for the next onslaught, and to widen their support base in defence of their sacrosanct five-mile zone—a zone that is fast becoming the Holy Grail of artisanal fishermen throughout Latin America

• sectors are gathering information to support
• their case to lift the five-mile zone restrictions
• in the south. Nevertheless, the artisanal
• fishermen of Peru continue to protest, to
• organize themselves in readiness for the next
• onslaught, and to widen their support base in
• defence of their sacrosanct five-mile zone—
• a zone that is fast becoming the Holy Grail
• of artisanal fishermen throughout Latin
• America, and a banner under which they are
• uniting to defend their rights. They will need
• all the strength and support they can muster
• if they are to prevail in the unequal power
• struggle with the mighty industrial fishery
• lobby, which have influential friends in high
• places. ■

Frustrating private agreements

Marc Allain

The Canadian court battle over owner-operator policy in inshore fisheries has resulted in a significant ruling

Defenders of Canada's inshore fisheries policies got a major boost in April when a court decided that the Department of Fisheries and Oceans (DFO) could effectively frustrate private agreements designed to undermine its policies.

The case, reported in the December 2004 issue of *SAMUDRA Report*, involves two fishermen who had entered into a private contract or trust agreement to transfer the right to use a fishing licence that one of the parties was not eligible to hold.

In recent years, these private agreements have become increasingly widespread as fish processors, wealthy inshore fishermen and other investors attempt to purchase licences from retiring inshore fishermen, particularly in the lucrative crab and lobster fisheries. The agreements often contravene two important government policies designed to keep fishing licences in the hands of individual working fishermen in coastal communities.

The *owner-operator* policy states that licences for species fished from vessels of less than 19.8 m LOA (length overall) will only be issued to individual, independent fishermen who must fish the licence personally.

Moreover, a qualified individual can only hold one licence per species, that is, while an individual can hold a portfolio of inshore licences (crab, lobster, scallops, mackerel), he or she can only hold one licence per species. The *fleet separation* policy states that corporations, in particular fish-processing

companies, cannot hold inshore licences, making it impossible for them to vertically integrate fish-harvesting and fish-processing operations in fisheries like lobster and crab. With the collapse of the groundfish resource and the increasing values for shellfish species, these inshore licences have become more and more valuable and sought after. Over the last 10 years, ineligible investors have been using trust agreements to accumulate these licences and, by the same token, turn the licence holders into their employees.

For years, the DFO ignored the problem, claiming it was powerless to act in private agreements. As the practice became more and more blatant, fishermen's organizations, especially the Canadian Council of Professional Fish Harvesters (CCPFH), the national organization representing independent owner-operators, pressured the federal government to enforce its policies.

In 2002, the DFO's Gulf region finally acted in the case of five snow crab licences found to be tainted by trust agreements. The DFO suspended the licences and ordered the licence-holders to extricate themselves from the agreements. In one of these cases, the holder of the trust agreement decided to ignore the government's action and asked the courts to enforce the agreement.

After several years of legal wrangling, the case finally came to trial. Lawyers for the plaintiff, the holder of the trust agreement, called a series of witnesses, including the lawyer who crafted the trust agreement, a former provincial cabinet Minister turned lobbyist and a lower-level DFO official, all of

This article was written by Marc Allain, Senior Policy Adviser to the Canadian Council of Professional Fish Harvesters. This article first appeared in *SAMUDRA Report* No. 41, July 2005

whom downplayed the importance and even the existence of the government's owner-operator policy.

Defence counter

The defence countered with testimony from the DFO official responsible for fisheries management decisions in the Gulf Region, who explained in detail the nature of the government's policies and how it had applied them in this case.

The CCPFH, which received intervener status in the case, also presented a brief to the court that strongly supported the government's policies and actions.

Citing an abundance of case law, CCPFH's lawyer argued that Canada's Fisheries Law grants the Minister of Fisheries absolute discretion in the granting of fishing licences and that the Minister has the right to adopt policies to guide his discretion and the right to delegate his officials to apply these policies.

On 11 April 2005, the judge ruled that the contract could not be completed because the DFO exercised its ministerial discretion in such a way that the transfer of the fishing licence became impossible. In legal terms, the judge ruled that the contract was 'frustrated'. Unfortunately, the judge did not offer an opinion on the validity of the DFO's actions by stating that he did not have the jurisdiction to rule on this question.

The ruling, however, is very significant because a court has now determined that private trust agreements involving fishing licences can be made inexecutable by the DFO actions. This supports the position of the CCPFH. For the last six years, CCPFH has been urging the government to use its power to thwart agreements purposely designed to circumvent public policy.

The court ruling increases the pressure on the Minister of Fisheries to act, since it is now clearly within his power to protect the integrity of the public policy and the inshore licensing system. The Minister has appointed

an official to report on what measures would be required to solidify the policy framework and committed himself to protect the policy. The report is expected in early June.

What remains to be seen is how the Department will deal with violators of the policy, especially those fleets in the province of Nova Scotia, which, although they remain nominally owner-operator, have come completely under processor control through the use of trust agreements. Meanwhile, the legal battle between the two fishermen to clarify the strength of the government's fisheries policy will drag on as the plaintiff has decided to appeal the judge's decision. ■

The power of co-management

Co-management of fisheries resources needs to ensure genuine involvement of gear groups, and consultation with their representatives

Co-management, intended as a collaborative and participatory arrangement between governments and resource users to share the responsibility for resource management, is increasingly being put forward as a framework for the management of fisheries resources, partly also due to the perceived failure, or inability, of centralized fisheries management regimes.

Co-management arrangements may be more effective in a context where property rights are well defined. As pointed out by Svein Jentoft (see pg 57), co-management arrangements in situations where community property rights are established and recognized, are likely to be more effective, as they enable communities to control access, to sanction, and to exclude others. However, the co-management framework also has relevance in fisheries where property rights are not defined, undoubtedly a more common situation in fisheries across the world where governance structures are still poor. The advantage of co-management is that it enables governments and fishery gear groups to adopt and develop meaningful fisheries management measures that can minimize costs and that can also expect realization of management goals in a reasonable time frame. At least, it is one way to develop appropriate fisheries management measures that can engender ownership among all user groups even in the absence of property rights.

To the extent that co-management recognizes the significance of the participation of resource users at all stages of resource management, it is important. However, experience from various parts of the world indicates that often the government commitment to participation of actual users remains on paper. The article from South

Africa (see pg 60), for example, points out that all too often, brief consultation takes the place of genuine local involvement in decisionmaking in the co-management of resources, in this case in the management of marine protected areas (MPAs).

Co-management of fisheries resources needs to ensure genuine involvement of gear groups, and consultation with their representatives. Particularly where traditional institutions for management and conflict-resolution exist, it would be essential to recognize them and ensure their integration within co-management arrangements.

Co-management efforts will also need to recognize the fact of large power differentials between various stakeholders in the co-management process, and, in the interests of equity, will need to take steps to prioritize the concerns and participation of those lower down in the power hierarchy—small-scale fishing communities, and, particularly, the women in these communities. Conversely, it would be imperative to work towards developing the capacity of communities to engage with co-management.

Co-management should not mean pushing all costs on to local communities, as is happening in certain situations. Some costs, such as, for example, the costs of effective enforcement and keeping in check encroachments by the industrial/large-scale/mechanized fleet, should be borne by the State. The need is not for 'less' State, but for a more effective, accountable and responsive State.

And finally, in the context of so many donor-supported co-management projects working in specific locations with communities, there is a risk of a fragmented approach to resource management. It makes little sense

The advantage of co-management is that it enables governments and fishery gear groups to adopt and develop meaningful fisheries management measures

This editorial comment first appeared in *SAMUDRA Report* No.42, November 2005

• if communities and local governments were
• to manage adjacent areas, while rampant
• fishing by the large-scale/industrial/
• mechanized fleet continues unchecked just
• outside the managed areas. Co-management
• arrangements must be developed at the
• larger level, taking into account the natural
• management unit, with both small-scale and
• large-scale fisheries being viewed through
• the same lens, as it were. ■

*Co-management
arrangements must
be developed at
the larger level,
taking into
account the
natural
management unit,
with both small-
scale and large-
scale fisheries
being viewed
through the same
lens, as it were*

Go for it

Svein Jentoft

Property rights and co-management could connect to improve the management of artisanal fisheries

This article attempts to bridge two separate but potentially overlapping discourses in fisheries management—that on property rights and the other on co-management. The property rights discourse is concerned with access rules, economic efficiency and rent production. The co-management discourse is predominantly focused on decision-making, stakeholder involvement and participatory democracy.

However, the two discourses tend to converge on one important issue—power. In the first instance, property rights entail the power to exclude someone from access to fisheries resources. In the latter instance, co-management is about the power to define the rules of access: who should decide on fisheries management regulations, among other things. Usually, a property right also involves the power to make the rules. Thus we would assume that one is a precondition for the other; that, for instance, a co-management regime would have to rely on, and preside over, a property right. Or conversely, that co-management comes with a particular property right. In this article, I argue that neither has to be the case. First, I shall say something on property rights. Then, I shall define what co-management is. Finally, I shall discuss how they might possibly connect in improving fisheries management for the benefit of artisanal fisheries.

The important thing to stress about a property right is that it is essentially a social relation. It establishes the position of the holder of some good vis-à-vis the position of other contenders for the same good. A property holder can lawfully deny others the possibility to enjoy the good or the benefits that stream

from it. In other words, the key relation of property is not between the rights holder and the thing itself, but between people: the owner and the non-owner.

Provided that the rights holder can effectively deny the access and use of others, he or she is also the holder of power. No wonder that Karl Marx saw property rights as structuring the relations among social classes, and turning class into an instrument of power and exploitation, and as a source of inequity. Similarly, Pierre Proudhon, the 19th century French anarchist, famously claimed: “Property is theft.” This is also why the property rights issue makes fisheries management systems so controversial and why artisanal fishers protest against privatization.

Undoubtedly, property rights do serve a purpose in fisheries management. The absence of property rights places some risks on the resources. But property comes in many forms. A private individual may possess a property right, and so may States and communities. The question is what different property rights are able to deliver to fisheries management. The State is said to have only thumbs and no fingers. Therefore, it is not able to sufficiently use the power that property vests in it, to manage diversity and complexity and situations that require a lot of detailed local knowledge and fine-tuned management mechanisms.

Transferable quotas

Private property, on the other hand, leaves communities at risk as it induces individuals to care more about themselves than their fellow community members and the places

This article by Svein Jentoft of MAREMA/ Centre for Marine Resource Management, Norwegian College of Fisheries Science, University of Tromsø, Norway, is based on a presentation at an ICSF-CeDePesca workshop. This article first appeared in *SAMUDRA Report* No. 42, November 2005

Property rights vested in communities are an alternative that has been largely neglected in modern fisheries management theory and practice

• they come from. Thus, in many parts of the world, individual transferable quota (ITQ) systems have proven to concentrate fishing rights, and hence fishing capacity, in the hands of the few, while communities and artisanal fishers have been stripped of their access to fisheries resources.

• Property rights vested in communities are an alternative that has been largely neglected in modern fisheries management theory and practice. Instead, fisheries management has been arranged as a relationship between the State and the individual, with no institutional mediating link in between, such as the community. In this system, the individual is placed passively at the receiving end of the management chain, giving the State the role of patron. This system also has its ideological underpinnings, emphasizing the supremacy of the market and the inferiority of the community.

• It is important to stress that there exists a range of property rights types and that State or private property is not the only remedy to the problems involved with open access. Let me also emphasize, because it is relevant to co-management, that open-access systems come in many forms, and that they do not have to imply a rule-less fishery. Furthermore, managers rarely find themselves in a situation where they can simply make a choice between one property-rights system or another as if they are displayed on a shelf when entering a store. In real life, property-rights reform implies that you move from one form to another. You always carry baggage, and you never start with a clean slate; getting rid of an old system can be as difficult as implementing a new one.

• We can think of a number of reasons for this; one is that after a while property rights, as institutions in general, acquire a status of objective reality—they become like nature. We take them for granted and can not imagine how life and society would have been without them. Another reason is that property rights, as Proudhon hinted at, always produce winners and losers. It is in the interest of

winners and generally also in their power to keep the system as it is. Thus, property-rights reforms are constantly imbued with social conflict, as history has shown time and again.

I believe that we need more research into the issue of property-rights reform. We know fairly well how property-rights systems work in fisheries: what their problems and benefits are, what they do and do not do. Much less attention has been paid to how one moves from one system to another, and under what conditions system changes occur.

Community property

Let me suggest, for instance, that it is much easier to move from State and common property to private property, than the other way around. It is not for nothing that private property is written into the constitutions of many countries while community property is not. It is also for this reason that it seems like privatization of fish resources—as within an ITQ system—is an irreversible process. Once quota rights are privatized, there is no way back. They produce what social scientists call ‘path dependency’.

The moral is that property-rights reform should not come easily and as a quick fix. They do change social relations drastically, and thus have an impact on how society—in our case, the fishery—works. They have implications that are not always easy to foresee: for instance, on power structures, settlement patterns and social values. You risk empowering distinguished social groups that are already enjoying power. So don’t do something that you may later regret.

Co-management can be defined as a collaborative and participatory process of regulatory decision-making between representatives of user-groups, government agencies, research institutions and other stakeholders. Power sharing and partnership are essential elements. Co-management vests authority over, and responsibility for, regulatory functions outside the realms of government, for instance, in user-organizations or fisheries co-operatives at the

national, regional, and/or community level. Co-management does not leave decision-making to the vagaries of the market, but draws heavily, but not entirely, on the forces and capacities of civil society. If we think of the relationships of fisheries management as a triangle, with the State at the top, the market at bottom left, and civil society at bottom right, co-management would be placed right in the middle.

I believe community-(or common-property) rights is particularly effective as a co-management tool. Communal or ‘collective’ property rights vested in the co-management institution provide the authority with an extra stick. It allows the co-management system to control access; it gives the right to sanction and, ultimately, to exclude. A system that enjoys this power would *ceteris paribus* be more effective than one that does not have this leverage. A co-management system operating within a State property, private property or open-access system would normally have no right to sanction by exclusion. It can only rely on persuasion and moral condemnation.

Exit alternative

Thus, a co-management system that is underpinned by one of these three property-rights types is vulnerable to free riding, as members would always have an exit alternative. If members do not like the collective decision, they can simply opt out, go solo. In a co-management system residing over a communal property right, however, people would have to use their voice to express their dissatisfaction. If they should then choose not to abide by the rules set by the co-management authority, they risk being penalized, not only through moral condemnation, but also by losing access.

It should be noted that this does not mean that co-management can not work in less-than ideal circumstances. In many countries, we see co-management systems operate well on property rights other than communal ones. If co-management could not function in less-than-ideal circumstances, it would

hardly be much to strive for. It would then only work in exceptional cases.

Since co-management can function regardless of the form of property right, there is no reason to wait for a property-rights restructuring to launch a management reform. The former is usually a more difficult undertaking than the latter, as it tends to provoke power. Comparatively speaking, co-management takes an administrative reform that, in many instances, does not need more than marginal reorganization of administrative boundaries, redistribution of management functions, and readjustments of procedural routines. Property-rights reform is more consequential since it changes basic social relations in lasting ways, as mentioned above. Hence, it tends to be more controversial and conflictive.

Co-management reforms and property-rights reforms could certainly be mutually reinforcing, and should, if possible, be integrated as part of the same process. Yet, they do not have to happen in concert. One reform could run independent of the other. Co-management could be initiated and implemented in the short run, while the property-rights transformation could be a project for the longer term. If you should meet obstacles in implementing the latter, it does not mean that you can not succeed in the former. So here is my advice for artisanal fisheries: if you want co-management, go for it. You don’t have to wait for the revolution. ■

Shifting gear?

Moenieba Isaacs, Mafaniso Hara and Jesper Raakjær Nielsen

Not enough progress has been made in reallocating quotas to previously disadvantaged groups in the South African fishery industry

The African National Congress (ANC) contested the April 1994 elections in South Africa on the basis of a vision of ‘a better life for all’, to be achieved through its people-centred Reconstruction and Development Programme (RDP) policy framework. This created expectations that many in the ‘marginalized’ fishing communities would secure their own fishing rights and small businesses. It was hoped that the revised fisheries policy would deliver on these expectations, while, at the same time, maintain an internationally competitive fishing industry.

Due to pressure from established economic interests, in 1996 the new government shifted its macroeconomic policy to a ‘homegrown’ structural adjustment programme called the Growth, Employment and Redistribution (Gear). The new framework abandoned the key principles and policies of the RDP, and instead adopted neoliberal economic principles, including privatization, subsidy removal and downsizing of the public sector; and encouragement of small black entrepreneurs.

Gear was aimed at achieving equity and redistribution through economic growth and job creation. The authors of Gear imagined poverty alleviation would be achieved through the ‘trickle-down’ effect of a new group of entrepreneurs who would establish labour-intensive small, medium and micro-enterprises (SMMEs).

This was in direct contrast to the RDP’s approach of redistributing wealth through interventionist State policies based on socialist ideology. The shift to Gear resulted in large

numbers of bona fide fishers being excluded from the formal allocation process because they could not demonstrate their entrepreneurship through being able to complete application forms and engage in related bureaucratic procedures without help.

In order to understand how the transformation process was supposed to contribute to poverty alleviation, one needs to understand the capital-accumulation/wealth-generation and safety-net functions of enterprise development and job creation. In this article, we will use the concepts of poverty, vulnerability and entrepreneurship to look at the contribution (or failure) of fisheries to the improvement of the livelihoods of coastal communities, including the proposed mechanism of co-management.

The shift in macroeconomic policy was an important factor in relation to ‘transformation’ of the fisheries sector in that the focus for transforming the sector moved from re-allocation of access rights to one of promoting black economic empowerment (BEE). BEE was focused mainly on addressing racial and gender imbalances within the industry.

It took the form of offering ownership of shares in established enterprises to historically disadvantaged individuals (HDIs) organized in empowerment groups and/or labour unions, transferring technical and management skills to HDIs, and promoting HDI employees to positions of management decisionmaking.

New fishing rights

The focus was not on the vulnerability of the workers within the existing established companies under BEE schemes, and new

This article, by Moenieba Isaacs, Programme for Land and Agarian Studies (PLAAS), University of the Western Cape, Mafaniso Hara, PLAAS, and Jesper Raakjær Nielsen, Institute for Fisheries Management and Coastal Community Development, Denmark, was first published in *Policy Brief*, No. 16, August 2005. This article appeared in *SAMUDRA Report* No. 42, November 2005

rights holders and the SMMEs that were established after achieving access to fishing rights.

‘Transformation’ is not defined in the Marine Living Resources Act (MLRA) of 1998 or in any other legislative or policy document. The vision of the government’s new policy is probably what was meant by ‘transformation’ in the Act:

the marine resources are a national asset and part of the heritage of the people of South Africa, present and future, and should be managed and developed for the benefit of the country as a whole, especially those communities whose livelihoods depended on these resources; and that the allocation of the resources would be made on an equitable basis, with a view to ensuring the long-term sustainability of the resources and their healthy condition for present and future generations.

Two approaches to transformation were being used: the broadening of access rights to new rights holders (individuals and companies) through State intervention (external transformation); and market-led change within State BEE policy (internal transformation). The Department of Environmental Affairs and Tourism (DEAT), a branch of Marine and Coastal Management (MCM), was given the responsibility for external transformation.

The new Constitution with its ‘Bill of Rights’ and the new fisheries policy paved the way for new entrants to the sector, but MCM struggled with managing and administering the process.

A complicating factor was that the sector was already oversubscribed—making space for new entrants would have required cutting existing allocations. Internal transformation was to take place through market-based reforms within companies through change in ownership, giving workers more benefits and share schemes, assisting in the empowerment of new rights holders, and so on.

This market-based intervention had an impact on the extent of State intervention from the start, leaving little room for a more community-based empowerment option for transformation in the industry. The responsibility of the State through MCM is to ensure that equity and redistribution are achieved without endangering the economic stability of the industry and sustainability of the resource.

From the very beginning, it was clear that the goals of transformation would be in conflict with the principles of resource management since meeting the expectations of the many potential new entrants would not be in line with the limited room for expansion that sustainable resource management entailed.

Adding to this was the fear among the established companies that allowing too many new entrants could create chaos and result in economic instability in the industry. Several factors impeded—or were used to block or slow—transformation, especially by those already in the industry.

The following were the constraints to transformation in the early years:

Unwilling sellers, unwilling buyers: As a matter of principle, HDIs and HDI groups were unwilling to ‘buy’ fishing rights that they felt they had been dispossessed of under apartheid. There were expectations that government would put this travesty right by simply taking these rights back from established companies and redistributing them to HDIs after the advent of democracy. The established companies were equally unwilling to share, sell or give up their fishing rights, arguing that they had spent decades building up their companies.

Foot-dragging tactics: Established companies used foot-dragging tactics to delay redistribution by employing leading lawyers to find loopholes in the new fisheries policy and to litigate on all large-scale cuts in their quota allocations. Many courts ruled in favour

The responsibility of the State through MCM is to ensure that equity and redistribution are achieved without endangering the economic stability of the industry and sustainability of the resource

The alliance between unions and employers against redistribution of fishing rights further marginalized poor bona fide fishers who had expected fishing rights after apartheid

of the established industry, hindering government from taking large portions of their quota allocations to accommodate new entrants to the industry.

Court challenges on administrative grounds: Numerous allocations by the former Quota Board under the old Sea Fisheries Act were successfully challenged in court on administrative grounds from 1993, following the promulgation of the 1993 Quota Board guidelines. The constitutional entrenchment of the right to just administrative action reinforced the strength of administrative remedies, as evidenced by the number of court cases after 1996. For example, the first quota allocations made under the MLRA were successfully challenged and set aside for reconsideration on various administrative grounds.

Alliances between large companies and labour unions to oppose transformation: Established companies were able to secure the support of their largely black labour unions to oppose transformation using the slogan “A cut in our quota allocations will result in a cut in jobs”. The unions (especially the Food and Allied Workers’ Union—FAWU) traded their support for maintaining existing quota allocations for better working conditions and improved benefits for their members (pension funds, shareholding schemes, medical aid, and improved health and safety).

The irony was that FAWU is an affiliate of the Congress of South African Trade Unions (Cosatu), one of three partners in the ruling ANC Alliance. The alliance between unions and employers against redistribution of fishing rights further marginalized poor bona fide fishers who had expected fishing rights after apartheid.

Constitutional protection of property rights: The Constitution provides that nobody may be deprived of property except in terms of law of general application (the ‘property clause’). This, together with the government’s commitment to support market forces, effectively gave established companies a veto against the reform of the fishing industry.

Most established companies claim to have implemented internal changes that meet the requirements provided by DEAT guidelines. The established industry quickly responded to internal transformation requirements.

For example, Oceana Fishing Group sold half of its equity to a black empowerment consortium, while Premier Fishing shares ownership with Sekunjalo, and Pamodzi/Foodcorp owns Marine Products.

Allowing a larger degree of black ownership strategically put such companies in positions of strength for maintaining or even increasing their quota holdings, since most of these empowerment groups had good political connections.

Companies like Sea Harvest and Irvin & Johnson started on a fairly small scale, offering limited shareholding ownership for employees at favourable prices. Although employee shareholding constituted a small percentage of the total stock, the symbolic effect was considered important. The established companies wasted no time in bringing in HDI leaders in an attempt to transform the leadership structures of their companies.

Within the labour unions, this was regarded as a window-dressing exercise, since some of these individuals were given the privileges of power but not the right to make crucial decisions.

The major dilemma that faced many new entrants was the lack of infrastructure (vessels, processing facilities and marketing networks) and business knowhow. A possible, seemingly obvious, solution to this dilemma was the formation of joint ventures and business partnerships as promoted by the new fisheries law (the MLRA).

In spite of all this, most new entrants complain that there has been no change in the power dynamics in the industry as a whole or within individual companies. Since established companies own most of the infrastructure, they retain control of fishing, processing and

marketing operations, even where new entrants have entered into joint ventures with them.

The prices charged for these services make it very difficult for new entrants to succeed. Established companies recoup their transaction costs through reduced prices for fish from new entrants or inflated costs for their services. The top management of most companies remains largely white. Where blacks have been given top positions, their ability to make management decisions is frequently constrained or absent. Most ‘internal transformation’ appears to be window dressing.

The lack of infrastructure and business knowhow among new entrants and the lack of real black ownership and power within established companies leave black workers and entrepreneurs vulnerable to manipulation and exploitation. Eventually, everyone, including the established companies, had to accept that some re-allocation of rights was unavoidable. MCM’s major indicator of transformation has been quantitative—that is, the number of new individuals (mostly HDIs) or HDI fishing companies that have been granted access rights. MCM’s stated achievements after 10 years of ‘transformation’ are, for example, in the abalone, West Coast rock lobster, small pelagic and deep-sea hake fisheries.

Commercial allocation

In the abalone fishery, the number of rights holders increased from five in 1992 to 271 in 2002. The five original quota-holding companies retained 49.5 per cent of the total commercial allocation, while original abalone divers received 17.5 per cent. The 228 new entrants under the limited commercial category got the remaining 33 per cent in allocations of 202 quotas of 430 kg and 26 quotas of 200 kg. Individuals held 95 per cent of the limited commercial allocations.

A total of 87.5 per cent of the companies holding commercial abalone quotas were classified as SMMES. According to DEAT, 90

per cent of the global abalone total allowable catch (TAC) was allocated to SMMES in 2002.

In the West Coast rock lobster fishery the number of rights holders increased from 39 in 1992 to 745 in 2002. While the top 10 companies held 57 per cent of the quota in 1992, this had been reduced to 36 per cent in 2002. Ninety per cent of right holders were classified as SMMES and 66 per cent of these companies were HDI-owned. In 2003, a further 274 individuals were awarded limited commercial fishing rights in the east of Cape Hangklip area. In the limited commercial sector, the allocations ranged from 200 kg to 1.5 tonnes (average: 712 kg).

A total of 91.5 per cent of the limited commercial quota was awarded to HDI or HDI-owned micro-enterprises. Thus, 70 per cent of the global TAC was HDI-controlled. Whereas there were only 12 rights holders in the small pelagics sector in 1990, by 2002, the number had grown to 91 sardine and 70 anchovy rights holders. About 85 per cent of these were considered to be SMMES. Furthermore, 73 per cent of the rights holders were HDIs and these held 75 per cent of the pelagic TAC. Most of these got 0.3 per cent of the TAC as their annual quota for the duration of the medium-term rights.

This means the access of HDI rights holders to the pelagic sector had increased tenfold (from 7 per cent to 70 per cent) over the 10 years 1992–2002. Despite this, the established companies have maintained their allocation (in terms of volume) of anchovy and sardine due to the increase in TAC. While only 21 predominantly white-owned companies had rights to exploit deep-sea hake in 1992, the number of rights holders had increased to 56 by 2000. The top five companies held 92 per cent of the TAC in 1992.

This had been reduced to less than 74 per cent by 2002. Furthermore, government claims that the large companies had been compelled to transform in terms of their ownership and management structures. In addition, 42 per cent of companies in the

In reality, most new entrants are finding it very difficult to establish themselves in the industry

sector were classified as SMMES, and 74 per cent of rights holders were deemed to be majority HDI-owned and managed by 2002. According to DEAT, HDI shareholding in the sector had increased from 0.5 per cent in 1992 to 25 per cent in 2002.

These reported results need to be compared to the extent of internal transformation that took place within the established companies, that is, the link between HDI ownership and quota allocation. External transformation is directly linked to internal transformation and it is situated in the need to maintain stability and efficiency within the fishing industry.

A consequence of the direct link between internal and external transformation means that there was very little TAC left for MCM to allocate to the new entrants. The industry's long-term economic viability could have been compromised by the short-term political goal of MCM—that is, to show the extent to which it has allocated rights to new entrants.

Impressive as these figures would appear, they do not describe the realities on the ground. The guidelines for award of medium-term rights outlined the objectives and assessment principles for re-allocation of fishing rights as being: “ability of applicants to invest in the industry and to demonstrate that they would be actively involved and committed to the industry”; “past performance and capacity to harvest and process the resource”; “potential for significant impact on local community economies and development”; and “the degree of risk of new entrants becoming paper quota holders”.

Categoric commitment

DEAT categorically stated that while the department was committed to bringing in new entrants into the industry, the potential of such new entrants to enter, participate in and share the risks of the industry had to be examined in the light of the degree of their knowledge, experience, their fishing plans and business acumen.

It was further stated that where joint ventures had been entered into, these had to be capable of validly empowering the rights holders.

In reality, most new entrants are finding it very difficult to establish themselves in the industry. A number of reasons have been put forward for the problems they are encountering:

- the quotas that they receive are too small to set up, establish and operate economically viable fishing businesses;
- banks do not accept fishing quotas as collateral for loans, making it difficult to raise investment capital;
- new entrants lack the technical and managerial skills to survive in the industry and no assistance is being provided in this regard; and
- it is very difficult for new fishing companies to compete with, or break into, the monopolistic business systems and structures that established large companies have created and fiercely guard in order to maintain their competitive advantage.

In view of the foregoing, the new entrants have adopted four main survival strategies:

- entering into joint-venture agreements involving catching or processing or marketing with established companies;
- pooling their quotas with other rights holders and jointly obtaining a vessel to exploit the pooled quota;
- selling their fishing rights outright to someone (usually an established company) with the ability to make use of the quota as their own (such rights holders are referred to as ‘paper quota holders’); and

- acquiring fishing rights for several species (if they own a vessel) in order to create an economically viable quota ‘package’.

Active participation

Since the first three strategies are the most common, the number of rights holders actively taking part in fishing operations is actually at least 50 per cent lower than the official number of rights holders. One analysis suggests that approximately 25 of the 51 new anchovy fishing rights holders sold their quota to vessel owners or processing companies. This accounted for about 25 per cent of the TAC.

In deep-sea hake trawling, the 53 rights holders have been consolidated into less than 20 operational clusters through joint-venture agreements. Joint-venture arrangements were being used by both sides for their own benefit.

For new entrants, this would demonstrate that they were actively involved in the industry, while, for the established companies, joint ventures provide increased raw material for processing. If the motivation for joint ventures was the transfer of skills in management and operations, it has rarely been successful—most new entrants are not gaining any skills that would enable them to stand on their own as independent and thriving companies.

As pointed out earlier, government’s policy goal was to award rights to new (mainly black) entrepreneurs. In turn, these could form viable fishing businesses in rural coastal areas and so contribute towards poverty alleviation by creating jobs. Little progress has been made so far.

Apart from the lack of skills transfer, another major stumbling block has been that the sizes of quotas that have been awarded to most new entrants do not meet the criteria of being minimum viable quotas (MVQ). For example, most new entrants in the abalone and West Coast rock lobster fisheries were awarded

quotas under the ‘limited commercial’ category.

Under this category, the maximum size of individual quotas is 430 kg (minimum 200 kg) for abalone and 1.5 tonnes (minimum 200 kg) for West Coast rock lobster.

The rights holders point out that these quotas are fished up within a month or two. Since one fisher could not apply to fish for more than one species, there was no other source of livelihood as soon as the annual quota had been exhausted.

In the small pelagics, most new entrants got quotas equivalent to 0.3 per cent of the TAC. In an industry based on high-volume, low-profit economics, such quota sizes are hardly big enough as basis for investment and future planning.

MVQs were seen as being necessary if government intended to eliminate ‘paper quotas’. The pooling of quotas by some new entrants could be seen as an attempt to create MVQs. But most new entrants were very unwilling to pool quotas.

As entrepreneurs, they would prefer to go it alone, but they face enormous constraints such as lack of capital, infrastructure, support systems and skills. An economic sectoral study of the industry concluded that pooling of resources (as most new entrants were forced to do) went against that grain of entrepreneurship that is usually based on taking business risks.

By allowing too many rights holders into the industry and spreading the cake too thin without any support systems, the government had set up the new entrants for failure. As a result, the majority of new entrants have been forced, *de facto*, to become paper quota holders or have been forced to make investments that were not based on firm business calculations, but rather to demonstrate activity with their quotas in order to qualify for the next round of quota

External transformation primarily focused on allocating fishing rights to established industries and to SMMEs. In the process, a large number of bona fide fishers had fallen by the side, as they could not get into either of these groups

• allocation. The non-viable quotas made new entrants vulnerable and easy targets for exploitation by those in more powerful positions.

• External transformation primarily focused on allocating fishing rights to established industries and to SMMEs. In the process, a large number of bona fide fishers had fallen by the side, as they could not get into either of these groups.

• **Interim relief**

• In the 1990s, the government had attempted to include this group through various interim relief measures, such as the community quotas of 1993, subsistence permits to fishers in the Western Cape in 2001, the Eastern Cape and KwaZulu-Natal, and linefish interim relief measures in 2003. The abolishment of the subsistence sector for abalone and West Coast rock lobster and institutionalization of the 'limited commercial' category in the Western Cape resulted in most members of this group being excluded.

• In a province where livelihoods from the sea has been extremely important historically and culturally, this is proving absolutely debilitating for such coastal communities. It is this category of bona fide fishers (who had been excluded through the formal processes) that are currently in litigation with government over their rights to a livelihood from fishing.

• The basis of the litigation is that government should recognize and protect their historical and cultural rights (and entitlement) to a livelihood from fishing (with an option to sell their catch), as provided for under the Constitution.

• Additionally, they argue that the transformation process that favoured commercial enterprises has so far been unsuccessful in job creation in their communities. They propose that a two-mile zone should be allocated exclusively for coastal communities for livelihood purposes. Most of those who are supposedly benefiting from internal transformation efforts in

established companies describe the changes that have taken place as 'cosmetic' and mere 'window dressing'. The external transformation efforts of the State aimed at increasing the numbers of new entrants to the fishing industry. However, since most of the beneficiaries have been allocated economically unviable quotas, the result has been a multiplicity of 'paper quota holders' who usually sell their rights to the established companies. Both internal and external transformation can thus largely be labelled as cosmetic.

The lack of clear transformation objectives in government and its inability to provide direction for transformation for the established companies gave the companies *carte blanche* to restructure their enterprises the way they chose to. Many have, therefore, merely tinkered with their existing profiles in order to create the impression that they have changed.

The lack of real change within established companies can be attributed to the lack of political will on the part of the State to force through real changes using quotas as leverage. The introduction of neoliberal macroeconomic policy enhanced the position of established companies by providing them with the argument that their ability to change the way they do business was limited because stability is vital for them to remain internationally competitive in the age of globalization.

Assessment needed

A future direction for fisheries in South Africa must be based on an assessment of how effectively internal and external transformation processes have addressed poverty, job creation and entrepreneurship. Government's policy for poverty alleviation has been through promotion of SMMEs that could new create jobs. This has not been much of a success.

With regard to the workers within the established companies, the process of negotiation between labour unions and

established companies, which started in 1995 to improve working conditions and secure jobs for workers, seems to have run its course.

According to FAWU, many permanent jobs are being lost in the fishing industry. Established companies have followed the trend towards casual, temporary and contract employment. Women engaged in processing fish have been most affected by ‘casualization’ in the industry.

A number of interventions are necessary in order for genuine transformation to occur and the fishing industry to contribute towards poverty alleviation. Many of the new operators in the industry did not have any access to credit (other than the value of the quota when sold). Government intervention is necessary to support new entrants in becoming more competitive and visible in the industry through providing access to affordable sources of capital.

There is an urgent need to establish training, especially in entrepreneurial skills. If the aim is to level the playing field, MCM has a responsibility to provide training, in co-operation with non-governmental organizations (NGOs) and other interested parties. Training should be a requirement for all successful new applicants. The established industry should be made to share in this responsibility.

One way of addressing the training needs of the new entrants is the introduction of a resource fee for leasing a fishing right, which can be used for capacity-building programmes for new entrants. A resource fee is a means by which society can benefit from giving the fishing industry the privilege of using a limited national resource. Since most of the marine resources in South Africa have been utilized to the maximum capacity, only a few can be given commercial fishing rights.

Such a tax could be used for general development projects like education, health

and housing, and the provision of welfare, especially in fishing communities that unsuccessfully applied for fishing rights.

It is clear from the experience of the last 10 years that there is a definite need for institutional support to new entrants. Interestingly, such an approach was used in the 1940s by the government of the time. The Fishing Industry Development Corporation (FIDC) was established to, among other things, establish rivals to Irvin & Johnson in the deep-sea hake trawl fishery by granting fishing rights to a limited number of rights holders in order to enable them to develop vertically integrated, economically viable companies.

What later became Sea Harvest only materialized because the FIDC was able to support skills development and provide capital. Similar human and financial support is needed for emerging companies to be able to ably compete with established companies.

Although a verification unit was established for the technical vetting and verification of applications for medium-term rights, it appears that no unit has been in place thereafter to audit progress in internal transformation in established companies and ensure new entrants are genuinely engaging in the industry. Such a unit is supposed to have been vital for vetting this progress as part of the process for awarding the proposed long-term rights from 2006.

In order to avoid having the kind of ‘fox in the henhouse’ situation that led to the Enron scandal in the United States, it is important that the verification unit is completely independent. An independent verification unit must have the ability to audit internal transformation within companies, joint ventures, as well as ‘paper quota holders’ in a credible and transparent manner.

Bona fide fishers

The inshore resources could have largely been left aside for bona fide fishers. Government could have used this as a bargaining chip against the arguments of the

There is no clear definition of co-management in a South African context, even though it appears to be seen as a panacea by government and academia for the sustainable utilization of fisheries resources and the economic development of fishing communities

established companies for maintaining their rights in the commercial sector.

This would have gone a long way in providing a source of livelihoods and so contribute towards poverty alleviation for these fishers and their communities. Regarding capital-intensive fisheries, government could have followed the advice from the Access Rights Technical Committee and acknowledged that it would be very difficult to transform these fisheries.

Instead, these fisheries could have been seen as a generator of funds for the development of coastal communities or society at large by imposing a special levy on fishing rights, like the resource tax charged in Namibia.

Established companies would most likely have argued that they already pay tax on profit and a levy on fishing rights would thus be unfair. It is clear, though, that, under the medium-term rights, established companies were willing to buy and pay for fishing rights under many different arrangements. By institutionalizing transformation through, for example, a Trust Development Fund, the transaction costs for the established industry to acquire access rights would have been substantially lower.

In South Africa, as elsewhere in the world, fisheries co-management has become a frequently used term to refer to involvement of fishers and fishing communities in order to improve their livelihoods in a consultative/collaborative manner. However, as with the concept of transformation, there is no clear definition of co-management in a South African context, even though it appears to be seen as a panacea by government and academia for the sustainable utilization of fisheries resources and the economic development of fishing communities.

Experiences so far with fisheries co-management in South Africa indicate that the existing co-management arrangements have primarily focused on management of the fish resources rather than being a mechanism for

facilitating economic development within fishing communities.

Livelihoods issue

Except for KwaZulu-Natal, the government has generally not taken its responsibility for collaborative management seriously. In addition, one can not expect poor communities and individuals to buy into the concept if they can not see that it would improve their livelihoods. Thus, it will be important that poverty-reduction strategies are embedded in co-management arrangements.

The government's intention for the redistribution of fishing rights was for fish resources to contribute towards poverty alleviation in coastal communities. Allocating fishing rights to new entrants was a necessary step to start addressing the legacy of apartheid's economic and social deprivation of black communities.

The shift to Gear meant that government's poverty-alleviation approach focused on poverty prevention (through SMMEs) and poverty reduction (through job creation). It envisaged giving fishing rights to entrepreneurs within fishing communities who could start businesses using their rights, thereby creating jobs within these communities. While rights would act to reduce poverty for the rights holders and entrepreneurs, the creation of jobs would prevent poverty for a few. It is clear, though, that the market solution (Gear) has been insufficient in effective transformation and contributing towards poverty alleviation in coastal communities. It is imperative, at least for the time being, that government should still play an interventionist role in order to contribute to poverty alleviation. ■

Important yet marginalized

Siri Gerrard

Why there are so few registered women fishers in Norway and what the consequences might be

Fishing in Norway is—and has been—a highly gendered activity, with only a few women working on fishing boats. The total number of Norwegian fisherwomen—and men—has decreased enormously after the cod moratorium in 1989 and the introduction of the quota system in 1990. The table overleaf illustrates this decline.

According to the table, women fishers in Norway registered as full-time fishers have decreased by almost 50 per cent in the last five years, while the number of female part-time fishers seems to be more stable, though with certain variations. The table also shows that between 1988 and 1998, the number of female fishers was relatively stable, while the number of men fishers decreased throughout the whole period, but at a greater rate after 1990. Such a marked decrease says something about the changing fishing industry. In the following sections of this article, I shall go further into why there are so few women in fishing and relate the phenomenon to the regulation of the Norwegian fisheries. Finally, I shall also try to comment on men's changing situation, and point to some social and cultural changes that fishing communities might face.

Following the moratorium and the first years of the quota system, Norway had the largest number of registered female fishers since the gendered registration started. The registered female fishers work on big factory ships filleting fish as well as on boats that are considered 'small' in a Norwegian fishery context. In Finnmark, one of the most fishing-dependent areas of Norway, I know of only one woman, who is skipper on her own boat

of 14.98 m length and has her own crew. It should, however, be mentioned that throughout Norwegian history, women have been engaged in shore-based activities as wives, daughters, relatives and neighbours, without having been officially registered as fishers. Even today, women function as such shore or ground crew, carrying out work that has helped develop an efficient fishery.

It should also be mentioned that only a small number of women have formal ownership in boats. As of August 2004, only 181 women had more than 50 per cent of ownership shares in fishing boats, while 296 women had less than 50 per cent. In the municipality of Nordkapp, close to very good cod grounds, only one woman has been registered as sole proprietor of a boat (5.1 m long), while some are registered as shareholders and part-owners in the companies that own fishing boats. Considering that there are 8,184 registered fishing boats of various sizes in the whole of Norway, the number of female owners seems very small indeed.

Norwegian fisheries are heavily governed by different laws and regulations like the Raw Fish Act, the Participation Act and the Act of Fishing in Salt Water, to mention a few. In order to be registered as a fisher, one has to send in an application to the Directorate of Fishery. To be accepted as a registered full-time fisher, one has to earn 60 per cent of one's income from fisheries, and spend at least 20 weeks in a year fishing.

Different criteria

The criteria for the part-time fishers are different. They can show earnings from shore-based work and spend less time at sea.

This article, by Siri Gerrard (sirig@sv.uit.no) of the University of Tromsø, is based on information collected for the project Sustainable Coastal Culture, financed by the Norwegian Research Council and the University of Tromsø. This article first appeared in *SAMUDRA Report* No. 42, November 2005

Table
Full- and Part-time Women and Men Fishers in Norway, 1983–2004

Year	Full-time				Part-time		
	Women	%	Men	%	Women	%	Men
1983	182	0.64	22,273	78.69	106	0.37	5,7
1988	575	1.95	21,473	72.69	102	0.35	7,2
1990	554	2.01	19,921	72.39	112	0.41	6,9
1993	572	2.26	18,500	73.21	105	0.42	6,2
1998	530	2.49	14,611	68.60	166	0.78	5,9
2003	283	1.64	12,957	75.31	130	0.76	2,8
2004	281	1.80	12,396	79.53	114	0.73	2,7

In order to buy a fishing boat with a quota, one has to have been an active registered fisher for at least a year. In addition to these regulations, there are also specific rules for buying and selling boats with a quota, depending on the region where one lives.

Eva Munk-Madsen argued some years ago that a resource that was common property and open to ‘everybody’, has, with the quota system, become closed for most women—in her view, about half of the fishery population. In view of the low numbers of registered women fishers and boatowners, and the fact that women in 1994 owned 192 of 16,216 units of quotas, Munk-Madsen concluded that quotas have become “men’s formal property right”. Since Munk-Madsen presented her work, even fewer women have been registered, and, consequently, fewer women have formal rights to the quotas. There are several examples of widows who have had to sell their boats with the quota even when they wanted to keep them and start fishing—because they were not entitled as ‘fishers’, according to the Norwegian laws that regulate fishing. This has been the case even if the woman had performed substantial unpaid work related to fishing and to the upkeep of the boat. Instances of divorces also illustrate the imbalance between women and men as far as quotas and other type of capital investments are concerned. As few women

have the right to quotas in Norway, they are effectively a marginalized group in Norwegian fisheries, with little access to the wealth that the resources in the fisheries might represent.

Why are there so few registered women in Norwegian fisheries? This is a question I have often asked since Norway is a country famous for its policies of gender equality. I will explore some possible explanations. First of all, it is important to remember that the majority of women in fisher families have, for ages, performed work on shore, connected to, and important for, the fishing boats. However, this work has, in most cases, not been registered or officially recognized, neither by fisheries officials nor by employment authorities. It has not been considered as a type of work that qualifies for membership in fishermen’s unions or resource policy-making institutions. Fishery institutions beyond the community level, and fisheries policymaking have, in this way, remained the domain of men.

Recent years have seen more examples of women who are active in fish harvesting and working together with their husbands. Some of them are registered fishers and enjoy a formal status. Some are also active members of the Norwegian Fishermen’s Union. However, neither do the policies of unions

and associations focus on questions relevant for women, nor do they recognize that women have contributed to the production in fisheries.

White papers

This neglect is also mirrored in public white papers on fisheries. Fishery questions are also left out in most Norwegian white papers on gender equality. A contrasting example is a 2004 white paper from the Sami Parliament, where women’s participation in fishery and fishery politics is heavily emphasized.

The quota system has not made it easy for the majority of women and men in Norwegian fisheries. Even though only a few women were fishing before the quota system was launched, they could, under certain conditions, continue to own their boat or rent it out if their husbands passed away. This is almost impossible today since a widow seldom has the right to the quota. And, obviously, a boat without fishing rights has a low value. Today even a very old boat with a quota can be sold at a very good price.

Thus, it is not only fish in the market that is a commodity, but fish rights through the quota system are also now a part of the market. If we examine the quota system—at least, the way it is applied in Norway—we will find it consists of a complicated arrangement of decisions, practices, rules and regulations at so many levels as to make it difficult to get a comprehensive overview. For most people, the quota system appears to result from a rather complicated and faceless power process.

Fishery politics and quota questions are still the men’s domain since there are few women in the institutions that make the most important decisions. The Norwegian Russian Fishery Commission that decides upon the total allowable catch (TAC) of cod in the Barents Sea is an example where the gender balance is very uneven. In 2004, four women and 24 men from Norway and the same number of women and men from Russia met to negotiate the TAC for the cod stock in the Barents Sea. A national-level example is the

committee that advises on the size of the quotas. This committee has always had a heavy deficit of women.

Both these important committees have applied for exemptions from the gender equality Act that mandates 40 per cent women’s participation in public committees. They argue that the fishery organizations have few women as members. Representatives from the Ministry of Fisheries also claim that few women are interested in, and seen as eligible for, such posts.

Such a view reflects the Ministry’s attitudes on who ought to be considered as experts in fishing and who should hold special offices. The net result is that women have little influence when quota questions are discussed at the political level. Some have tried to influence the policy, for example, in the committee that advises the Ministry regarding fish stocks. Fisheries and resource management policies are arenas where some men still have the power to define the agenda. The quota system and the debate about this system can, therefore, be looked upon as a strong symbol of men’s maintenance of the power in fishery policy and the hegemony of some men. Some say that women’s position in fishery policymaking only reflects their position in society at large. This might have been the case if only the number of registered women is taken into consideration. However, if we also consider the number of women who work alongside men, often their spouses, I would rather say that Norwegian fishery policy is facing a democratic deficit.

It should, however, be mentioned that even though little attention has been given to women in relation to resource questions, women’s positions have, once in a while, been put on the fishery policy agenda. In the 1970s and 1980s, students and researchers, along with members of the Fisherwomen’s Association, raised questions about women in fisheries, in fishing communities and women’s influence on fishery politics. The Fisherwomen’s Association also emphasized local welfare and cultural questions. The association was among those that put safety

...it is important to remember that the majority of women in fisher families have, for ages, performed work on shore, connected to, and important for, the fishing boats. However, this work has, in most cases, not been registered or officially recognized, neither by fisheries officials nor by

at sea on the political agenda. Coastal women from Srya in Finnmark went on the barricades in 1989 after the moratorium was declared and tried to influence policymaking. Women from the environmental association and the Sami Parliament have been among those who have tried to influence the national committee discussing quotas.

Women's projects

Some of the 1980s' activities resulted in the fishing industry's Committee for Women. This Committee put women in coastal communities and women in the different sectors of fisheries on the fisheries agenda and tried to support women and women's projects in different ways. However, it was not considered a policymaking institution and had little influence on the resource management policy. The committee lasted until 2000, when the Minister of Fisheries cut off financial support.

In recent years, women in the Lofoten area have tried to give more attention to the importance of coastal fisheries, through the mass media and by circulating petitions. Women parliament members drew attention to resource policy matters, just as their counterparts in the Sami Parliament had done. The gender-oriented white paper mentioned earlier was a result of their work. In spite of such efforts, the women's situation, the challenges in fisheries and fishing communities and the lack of recruitment in many of the fishery districts are topics that seem to be very difficult to get on to the political agenda in the new millennium.

To be sure, there have been several changes in the men's situation as well. In one community in Finnmark, there are about 20 boats, 20 local and some non-local registered fishers, of whom three are women. All the fishers are over 30 years old. The majority are more than 40. Four owners or enterprises own half the boats and quotas. The number of quotas exceeds the number of boats used in the daily fishery. This is possible due to the new arrangements that have been adopted which states that one can transfer

for a limited period one quota from one boat to another boat within the same length class (for example, within the group of boats of length 10 to 15 m). Two of the owners have organized themselves into private limited companies, while two others have individual or sole enterprises, the traditional ownership model in this area. We can see a concentration of ownership of boats and quotas and a change in the ownership pattern: Some fishers are trying to succeed in the fishery by getting more quotas, others manage with one boat and one quota, and yet others are leaving the fishery. The 'deficit' of youngsters entering the fishery is quite obvious and the number going into the fishery from this area is smaller than ever before. For the young ones, the fishery industry seems to be a closed industry.

Loose connections

Today, more and more women in the coastal areas of Norway seem to have only a loose connection with fishing, fisher's work and processing in general, compared to the situation years ago when women contributed with an enormous amount of work. Today, they can be their husbands' consultants and share the financial burdens of the household. The majority of women are employed outside the fishing sector, for example, in teaching, or in other public-and private-sector jobs, since fishery work has been so heavily downscaled in Norway.

Young women and men are moving away from fishing villages. Youngsters and women in fishing and fishery-related activities seem to be the main losers in the fishing industry.

But there are also other considerations to be taken into account. When women leave fisheries, fishing-related households seem to weaken or disappear. When fishing-related households weaken or disappear, fishery as a way of life for women, men and children seems to weaken. When this happens, the population in the fishing villages decreases. These tendencies also have consequences for men—especially for those who are not willing to compete for more and more

Empowering co-management

Sebastian Mathew

The issue of co-management came up for detailed discussion at the ESA Fish Workshop organized by ICSF at Dar es Salaam, Tanzania

The workshop on “Fishing Communities and Sustainable Development in Eastern and Southern Africa (ESA): The Role of Small-scale Fisheries” was organized by the International Collective in Support of Fishworkers (ICSF) in collaboration with the Western Indian Ocean Marine Science Association (WIOMSA), the Masifundise Development Trust and the Coalition for Fair Fisheries Arrangements (CFFA). It was held at Dar es Salaam, Tanzania, from 14 to 17 March 2006.

Among the various issues discussed, considerable interest focused on co-management in fisheries. Simeao Lopes of the Institute for the Development of Small-scale Fisheries (IDPPE), Mozambique, said fishing contributes to the country’s employment, food security and foreign exchange. The sector is organized into the industrial, semi-industrial and artisanal fisheries. Private and joint-venture companies engage in industrial fisheries, especially for shrimp resources in the Sofala bank. The semi-industrial fishing vessels are mainly Mozambique-based trawlers that target shrimp. They also include handlines as well as freshwater fishing platforms for *kapenta*. The artisanal fisheries are spread along the seaboard and the inland waters, employing about 130,000 in canoe fishing and fish processing. There are about 11,000 artisanal fishing vessels, only 3 per cent of which are motorized. Beach-seines, gill-nets and handlines are the popular artisanal fishing gear.

The development of co-management in Mozambique began, Lopes said, with the

structural adjustment programme (SAP) in the post-Second World War era, as demands increased on Africa to democratize and implement SAPs, from its traditional Western donors, led by the World Bank and the International Monetary Fund (IMF), who stressed resource management based upon participatory approaches, devolution of authority and decentralization of powers. Thus, by the early 1990s, user participation had become almost a *given* requirement for donor-funded development projects in Mozambique.

Within the fisheries sector, studies were conducted to evaluate fisheries programmes and projects implemented during the previous two decades so as to draw lessons and propose appropriate future interventions. A Fisheries Master Plan (FMP) was developed and approved by the Mozambican government in 1994. The process of elaboration of the FMP involved many central fisheries institutions, fishing communities and other stakeholders, Lopes said.

The FMP laid out the priorities and strategies for development to be pursued in the subsequent years. With regard to the management of small-scale fisheries, the FMP emphasized the involvement of fishermen in setting and enforcing management regimes. It was from the FMP that co-management approaches were formally declared as part of the general new strategic interventions for fisheries management and development.

Better analyses

A subsequent evaluation underscored the importance of more careful and comprehensive analyses and discussions, and

This report has been filed by Sebastian Mathew (icsf@icsf.net), Programme Adviser, ICSF. This article first appeared in *SAMUDRA Report* No. 43, March 2006

the development of more active participation of beneficiaries. Pilot measures for user-sensitization began in the late-1990s. Several co-management committees were since set up in the marine coastal areas of the country to improve the efficacy of fisheries management through developing a sense of ownership of management programmes amongst active fishers.

However, Lopes identified several constraints to realizing co-management goals in Mozambique. Firstly, the State acts as the custodian of all natural resources, including marine resources. Through the Ministry of Fisheries' directorates and autonomous institutes, the State has the right to manage marine resources for the benefit of the people. In artisanal fisheries, the users (coastal communities) have the right to use fisheries resources; however, they do not have the right to participate in planning for the use nor the right to legally act, individually or collectively, in respect of management of the fishery resource. This is a serious constraint to the goal of better resource management.

Secondly, there are restrictive meanings associated with the concept of participation. Thus, for example, as far as fishing communities and their traditional leadership are concerned, participation does not apply to the crew on board fishing vessels. It applies only to those who have the political and economic power to take strategic decisions, to the local elite, the traditional and religious leaders and other individuals who are willing to offer their services on behalf of others. These people may not be the most appropriate to deal with issues related to fisheries co-management. There could thus be conflicts between participatory democracy as demanded by the main donors, and effective fisheries management. However, to guarantee the success of co-management, the government should understand these socio-cultural aspects (as traditional leaders are still respected by the majority of rural people), and ensure that all relevant institutions, individuals or interest groups, which are considered legitimate by

different members of fishing communities, are engaged in the process, Lopes added.

Thirdly, the government has not been able to empower fishing communities (legally, through economic incentives or through capacity building) to cope with resource management responsibilities. Neither has there been an effort to use local knowledge in decision-making processes or to explain the criteria used to make some management decisions. As long as there is poor understanding of fisheries management amongst the fishermen, there might be unwillingness to comply with fisheries regulations.

Local knowledge

It is important to integrate traditional/local authorities, as well as local knowledge, into co-management as a means to connect political and scientific objectives of the government to the community. For the fishing community, it could be a way to reach full control of their marine resources through the devolution of power and responsibilities from government, Lopes observed.

The pressures on the coastal fishing resources in Mozambique result, among other things, from the overall unhealthy economic situation in the country, he added. To raise enough income for subsistence, fishing communities are putting pressure on the resource by increasing fishing effort through the use of inappropriate fishing gear like fine-meshed nets in beach-seines that target small pelagic fish. Open access to fisheries resources further complicates the matter, resulting in serious threats both to the resource and to the economic development of fishing communities.

The fishermen themselves say that the catch rates from the nearshore waters have declined, and the average size of commercial fish species have decreased. The falling productivity of fishing units indicates the need to manage the fishery and exercise caution in promoting any increase in fishing effort. Co-management arrangements should be able to reconcile conservation with the subsistence

In artisanal fisheries, the users (coastal communities) have the right to use fisheries resources; however, they do not have the right to participate in planning for the use nor the right to legally act, individually or collectively, in respect of management of the fishery resource

or livelihood interests of fishing communities. The competition for the marine coastal resources of Mozambique is becoming increasingly evident, with both artisanal fishing communities and tourism relying on the resources for livelihoods and development. At present, the Government of Mozambique (GoM) is encouraging tourism as a way to rapidly develop the economy, Lopes said. As part of this process, the GoM has delegated the management responsibility of some areas of the coastal zone to private tourism developers.

Artisanal fishing communities are concerned about the use of, and access to, the same coastal resources, leading to conflicts where fishing communities have been displaced from their traditional living and fishing grounds. These are more evident where tourism interests are promoting the preservation of marine coastal resources as their primary asset, which contrasts with the extractive value of the coastal fishery resource, as perceived by the fishing communities.

On the one hand, the GoM is supporting the development of co-management in the artisanal fisheries sector without the legislative framework that can delegate resource management responsibilities to the communities. On the other, it is providing the legislative framework for delegating resource management concessions to private tourism developers without the co-management institutional framework that would consider the needs of all resource users. In both instances, the result of partial regulation and control over each resource user group risks overexploitation of marine coastal resources.

Co-management is seen by the GoM as a means to better control fisheries activities (especially the fishing effort and conflicts of interest) through sharing or decentralization of some responsibilities to the local institutions. But the communities view the arrangement as a step to achieve full control over the fishery resources through the devolution of power and authority to the local institutions.

However, the GoM may not be able, or even willing, to devolve the authority, as that would require some changes to the country's constitution. Sufficient financial capacity would also be needed to ensure appropriate collective organizations among the communities. Lopes raised the following questions in the light of the experience of Mozambique with co-management: (i) What are the different approaches of different players in co-management and what is their understanding of 'sustainable development'? (ii) How could balance between conservation objectives of governments and the livelihood needs of fishing communities be established while implementing co-management programmes? (iii) Could co-management achieve the objectives of all players, given that the outcome might not always be exactly the same and may often be contradictory in nature? (iv) How could participatory and traditional elements work together? (v) Are co-management institutions willing, or able, to use multiple sources of knowledge in management decisionmaking? (vi) What could be the implications of the two models—decentralization and devolution—for fisheries co-management arrangements? (vii) What are the impacts of participatory development approaches on the traditional and (new) economic power structures in a co-managed resource environment?

In the discussion that followed Lopes' presentation, it was observed that co-management basically referred to shared management responsibility between the government and the community. It was noted that it is important to have an understanding of what definition to use in the ESA context. It was further observed that the participation of women in co-management initiatives is poor.

Friday Njaya of the Fisheries Department of Malawi spoke about the status of participatory fishery management (PFM) in Malawi lakes. PFM was introduced in Lake Malawi at the behest of international agencies in the 1990s in response to declining lake fishery resources and intensifying conflicts between small-scale and commercial

fisheries. Historically, there were traditional controls over fisheries resources in some parts of Lake Malawi and Lake Chiuta, and user committees and associations called beach village committees (BVCs) were formed to establish PFM in all the lakes.

The composition of the BVCs varied from lake to lake. While some were associations of chiefs, others had mixed composition. The issue of devolution of fisheries responsibilities to local district assemblies is still an outstanding one. BVCs have to be redefined to allow for the participation of all representatives of different fishing activities. Formal bye-laws are yet to be developed for effective devolution of fishery management powers.

There are doubts whether or not PFM could work in Lake Malawi, which is a large water body supporting small-scale, semi-industrial and commercial fisheries, including trawling. The fishing communities along Lake Malawi are multi-ethnic. There are problems in successfully imposing access regulation on fishing, in demarcating boundaries and in enforcing fishery regulations, Njaya said.

Yet, despite difficulties, it is possible to set up ‘broadbased co-management’ in Lake Malawi, with the participation of stakeholders such as the police, magistrates, chiefs, natural resourcesbased government departments and the district assembly. There is a move now to introduce a closed season for trawlers. In smaller lakes such as Lake Chiuta, PFM structures are useful mechanisms to resolve transboundary conflicts between Malawi and Mozambique. Njaya said co-management should be based on local conditions, and defined and developed in a contextual manner. It is important to make a policy distinction between the rural poor and the village elite in co-management programmes. There should be clarity on the introduction of property rights or access regulation regimes. Sufficient caution should be exercised while applying theories in practice. Implementation of a co-management initiative is a learning

process and it evolves with time, Njaya concluded.

Mafaniso Hara of the University of Western Cape, South Africa, gave a presentation on the implications for coastal communities of co-management perspectives and experiences in the ESA region. The objectives of fisheries management mainly involve three aspects: setting management objectives; defining and providing the knowledge base for management decisions; and implementation of management decisions. Historically, fishery management decisions have been top-down. The fisheries resources have been treated as State property, and the objectives of fisheries management have mainly been confined to conservation of fishery resources, relying on biological sciences. The implementation of fishery management was through policing measures.

Conventional regimes

Co-management of fishery resources was proposed in light of the failure of conventional fishery management regimes to prevent overexploitation of fishery resources. It is also proposed as an effective mechanism to break the barriers between fishery administrators and user communities—a legacy of the top-down approach through democratic decentralization, Hara said.

Co-management of fishery resources mostly as short-term, externally funded projects—was led by government line agencies through the creation of ‘user’ representative organizations (‘democratically’ elected committees). The process has sometimes lacked flexibility because of specific donor requirements.

The experiences with co-management in the ESA region have so far been mixed. The most common types of co-management have been ‘instructive’ or ‘consultative’. Hara discussed several critical aspects of co-management as it is currently practised in the region. Firstly, there are conflicting objectives between conservation of fishery resources and socioeconomic development of fishing

The objectives of fisheries management mainly involve three aspects: setting management objectives; defining and providing the knowledge base for management decisions; and implementation of management decisions

communities. The government approach has usually been instrumental; it co-opts users into the management process to achieve the same old conservation objectives without really accepting alternative knowledge, ideas and views from them. By and large, governments do not perceive co-management as a means of introducing more democratic principles of fisheries management, but as a means to better achieve the government's original conservation objectives.

Secondly, co-management has been proposed as a way to deal with open-access problems. The introduction of access rights has been with the idea of enabling effort control. However, such measures often clash with historical fishing practices. Enforcing access control was particularly problematic in areas lacking alternative economic opportunities.

Thirdly, centralized co-management systems are favoured that rely on the government's natural scientists. Very few inputs from users are incorporated into such systems. Usually, only tasks that the governments have failed to implement, or are costly, are left to the user groups. The local communities are usually not legally empowered. Their negotiating position in relation to the government is still weak. The governments are also reluctant to devolve real power and genuine authority to user groups.

Fourthly, co-management usually requires customary sources of power held by traditional leaders for effective application of sanctions. There is thus a need to involve traditional authority. The traditional authorities or local elites often capture power to offset any challenge to their authority that could crop up from co-management programmes.

Fifthly, while the governments may lack appropriate skills and capacity to undertake co-management, communities might not have the economic, social and political incentives or capacity to undertake some responsibilities required under co-management.

Finally, the definition of 'user community' and 'stakeholders' can be evolving and dynamic in a temporal and spatial sense. Existing mechanisms cannot define the users and decide on how to represent them in co-management structures. There is also the problem of lack, or low degree, of downward accountability of representative organizations. However, tacit threats of governments to revoke powers and authority force upward accountability.

Hara had the following recommendations for "efficient, equitable and sustainable fisheries management" in the ESA region. Firstly, co-management models should acknowledge and integrate the role of poverty in community/individual decisions, and occupational and geographic mobility in community/individual livelihoods. The role of fishing in the community's livelihood interests should be better understood.

The community should know the status of fishery resources and be better informed about alternative sources of livelihoods that could possibly combine with fishing. In this context, how far occupational and geographic mobility could help improve socioeconomic status is important, Hara added.

Secondly, there is a need for "empowering co-management" by fully involving users in setting up management objectives, in integrating 'user knowledge' into formal science and in the implementation of management decisions.

And finally, it is important to improve the ability of communities to agitate. They should challenge formal science (including international conventions) using their local knowledge to balance conservation with local socioeconomic concerns. They should agitate for enabling legislation and improvement in the attitude of governments to their concerns. They should agitate for better information and better organization of co-management structures with improved human and financial resources, Hara concluded. ■

A meaningful beginning

John Kurien, So Nam and Mao Sam Onn

The following is from a document published by the Inland Fisheries Research and Development Institute (IFReDI), Cambodia

The main objective of this document is to make a modest attempt to highlight the challenges which are emerging with the current phase of Cambodia's aquarian reforms—the most important component of which is the current transition from fishing lots to community fisheries. The challenges include the realms of institutional and policy reform, local action, innovation and research. We contextualize our effort by commencing with an assessment of the importance of the aquatic resources and by providing a brief historical background to the reforms. This is followed by an examination of the changes in the access and property rights and the system changes which have been brought about as a result of the reform.

How some of the transitional changes can be assessed and the manner in which the efforts at community fisheries can be made more economically and socially viable are also addressed. We deal with the complex issue of social identity and the aspirations for creating a new sense of community. The new role of women, the importance of creating networks and closer collaboration with Cambodia's local governance structures and vibrant civil society organizations are also highlighted. The reforms have created new legal realms of local 'micro' ecosystem space and resource governance.

But this should not detract from the need for an understanding of the larger 'global' context—be it in relation to the ecosystem dynamics or governance priorities. We suggest that research and development priorities must be re-oriented to consider ways of dealing with the vast number of new

and evolving 'local realities' and yet, link them up contemporaneously to the big 'global picture'. We end with a few recommendations addressed to different actors involved in the process of aquarian reforms. There is a call for a new mission and greater collaboration by research institutions; new methodologies for data collection; greater participation with local governance structures; an exit strategy for aid agencies and the need for setting up a national institute for co-management applications and training.

Developing countries have been recently challenged by many opportunities and problems pertaining to their efforts to facilitate economic growth and promote human development. Providing a growing population with the entitlements and capabilities needed to meet rising aspirations in a globalized, market-dominated economy is often a daunting task before policymakers and politicians. Tapping into the renewable natural resources in a country—its real wealth—is often the 'fallback option' which both the State and the people adopt when crisis brews in the other sectors of the economy. The market-oriented option of converting natural resources to wealth often ends up in what economist Herman Daly recently referred to as the tragedy of artificial or self-inflicted scarcity. This approach generally leads to private riches for a few and exclusion from the public wealth for the many.

Under pressure

Recognizing the pitfalls of such an approach, but often under pressure from the people and civil society, States have increasingly resorted

This excerpt is from *Cambodia's Aquarian Reforms: The Emerging Challenges for Policy and Research* by John Kurien, Fellow, Centre for Development Studies, India, So Nam, Deputy-Chief, Fisheries Domain and Extension Division, and Mao Sam Onn, Deputy-Chief, Administration and Personnel Division and Assistant of the DG, Department of Fisheries, Phnom Penh, Cambodia. This article first appeared in *SAMUDRA Report* No. 43, March 2006

These reforms are meant to empower people to relate collectively to the country's rivers, lakes, floodplains and the fishery resources therein

to measures to open up the terrain of renewable natural resources to communities who depend on them for a livelihood. Doing so without the appropriate institutional arrangements to modulate the use and management of these resources has often led to the tragedy of open access.

Finding the 'middle-path'—wherein both efficiency and equity considerations can be adequately met within their social, cultural and political frameworks—has been on the agenda of many developing countries.

Cambodia is pictured in international per capita income comparisons to be one of the poorest countries in the world. There is certainly much truth in this statistic. However, viewed from the perspective of availability of per capita natural resource—land, aquatic resources, particularly fish, and forests—it is certainly one of the richest countries in Asia. Converting this latter statistical average into equitable access and well-being for the majority is indeed the greatest challenge before the State and the people of Cambodia. The challenges to achieve this goal with respect to the most valuable aquatic resource of the country—the fish in its inland waters—are the focus of this document.

We term the efforts at aquatic resource management which have been unfolding in Cambodia as 'aquarian reforms'. We adopt the term 'aquarian reforms' rather than 'fishery reforms' for a variety of reasons. The reforms have a historical context. In the past, government intervention in the sector was focused on gathering revenue rather than managing fish production or promoting local livelihoods. In the current phase, the attention of the reforms is focused on the institutional changes which are being made—contemporaneously by the State from above and the communities from below. These reforms are meant to empower people to relate collectively to the country's rivers, lakes, floodplains and the fishery resources therein. In future, the reforms will play a role in conditioning the technological choices and organizational decisions that people make in

order to obtain sustainable gains from their collective action. In brief, we are concerned with a dynamic process of transformation. The focus is not merely on fish but on the whole aquatic terrain and the evolving manner in which people relate and intervene in it. Our contention is that the ecological and socioeconomic initial conditions have a definite bearing on these evolving circumstances. The present course and the future trajectory of the new institutional changes sought to be introduced need to be envisioned with this perspective. Aquarian reforms cover this entire canvass.

Good scholarship

An excellent body of scholarship already exists about these reforms written before the sub-decree of community fisheries management was formally approved. Our efforts build upon that corpus of information and on recent (late 2005) discussions with fishery officials and researchers and field visits to several provinces for firsthand information from the women and men in the villages most impacted by these reforms. The document primarily addresses the various actors associated with the aquarian reforms in Cambodia. It seeks to provide them with some guideposts on the range of issues that may arise if the reforms are to be taken to their logical conclusions.

The community access to resources, if managed well and strengthened, can yield significant familial and societal changes that sustain resources and foster convivial livelihoods.

More than mere poverty alleviation, it can contribute significantly to enhancement of the capabilities and entitlements of the rural masses in Cambodia. Combined with enlightened advice and support from research and development agencies, local control over resources can lead to greater care and nurture of the unique aquatic ecosystem of Cambodia.

During our visits to community fisheries we were informed about the greater livelihood

opportunities available for men and the increased employment and income-earning opportunities for women.

People spoke about the manner in which the availability of greater money income was utilized to keep children healthier and educated. They spoke about reduced domestic violence.

The greater control over local natural resources also leads to reduction in ‘push-pull’ migration of men in search of work. These factors taken together can yield intergenerational reduction in infant mortality, family size, enhancement of educational levels and greater gender justice.

Such positive socioeconomic and demographic changes will create different occupational expectations in the next generation. This can yield reduced population pressure on the aquatic resources in the not-too-distant future.

Coupled with changes in the access right to aquatic resources, if there is a general revival of economic growth and employment opportunities in the country, this can result in the new generation opting for other gainful occupations.

These opportunities can arise in small and medium village enterprises dealing with aquatic resource processing, which can be rural-based, urban-or export-market-oriented, and yielding higher incomes.

Greater economic democracy is a necessary condition for raising human dignity and creating stable political democracy and peace. This will have far-reaching implications for the future of the country.

Aquarian reforms in Cambodia have a long history. The earlier phases were measures taken with considerations aimed at efficiency and maximum rent extraction, and tempered in accordance with some sociopolitical considerations.

The current phase is anchored in the context of the country’s recent voyage towards greater democratization and integration into the global economy. It is part of the government’s Rectangular Strategy which is intended to “firmly and steadily build Cambodian society by strengthening peace, stability and social order, entrenching democracy and promoting respect for human rights and dignity.”

These are indeed laudable objectives. The current move towards community fisheries should be seen as an important commitment towards achieving these goals. Being simultaneously a top-down and bottom-up approach, it is only natural that there will be doubts and anxieties about the sense and the viability of the whole enterprise, both on the part of the government and the people.

There is no need to concentrate excessively on the organizational form of the reforms. The debate is not about whether the inland fish of Cambodia are better harvested through large fishing lots or small community fisheries organizations.

Complete reforms

Aquarian reforms are complete only when those who directly relate to the aquatic resource through their labour, to give value and meaning to it, are assured the freedom and given their rightful rewards for doing so on a sustainable basis. On this count, a meaningful beginning has been made in Cambodia. But there will be many challenges ahead and a long way to go. ■

Who's sharing the fish?

Derek Johnson

This is a reaction to the 'temperate minority'-worldview on the allocation of fishing rights that dominated the *Sharing the Fish Conference 2006*

Fremantle, Australia, the site of the *Sharing the Fish Conference 2006*, was not exactly temperate between 26 February and 2 March 2006, with Celsius temperatures in the mid- to high-30s. Nonetheless, the intellectual climate of the conference was distinctly Northern. In retrospect, perhaps this should not have been a surprise, given that it was hosted and supported by various Australian fisheries agencies and the New Zealand Ministry of Fisheries. However, the lack of representation from the South was still a shock, considering that the theme of the conference—allocation issues in fisheries management—is of enormous global importance currently, and also considering that the Food and Agriculture Organization of the United Nations (FAO) co-hosted the conference.

As someone with experience of primary fisheries research in both the South (India) and the North (Canada)—sufficient to have generated an international perspective—I offer this review from the perspective of the majority of world fishers, whose interests and concerns were largely left out of the conference, which was, nonetheless, a stimulating and thought-provoking experience.

Sharing the Fish 2006 was an expensive event. Conference fees were AUD700 (US\$500). For those who wished to stay in the hotel where the conference was held, room rates were another AUD175 (US\$125) a night. Such rates allowed the conference committee to hire a professional event management company to run the event, and thus it was extremely well organized. The downside, of course, was that ordinary

participants from other parts of the world, not already dissuaded from attending by the high cost of travel, would have had to think twice about participating because of the high fees.

There was thus a paucity of representation from the most important fishing regions of the world and even a surprisingly small number of academic participants, particularly from the non-economic social sciences. I counted only three of this last group, along with the economists, lawyers and biologists who made up the academics at the conference, although there may have been several more than were immediately apparent. The character of the conference was thus professional and corporate. Tables 1 and 2 give a breakdown of conference participants by region of origin and by work.

Table 1. Origin of Speakers

Country	Speakers
Australia	61
New Zealand	15
United States	11
Northern Europe	8
Canada	7
Africa	4
South Pacific	3
Southeast Asia	3
Asia	2
Latin America	1
FAO	1

The allocation theme of *Sharing the Fish 2006* was divided into three subtopics: “allocation across jurisdictions” (26 papers);

This review is by Derek Johnson of the Centre for Maritime Research (MARE), Amsterdam, The Netherlands. This article first appeared in *SAMUDRA Report* No. 43, March 2006

“allocation across sectors” (51 papers); and “allocation within sectors” (25 papers). Thirteen papers did not fit into these categories. The three conference subtopics were further divided. The “allocation across jurisdictions” subtopic included “high seas, regional and national cases”. “Allocation across sectors” included “extractive vs. non-extractive uses”; “allocation between commercial and recreational sectors”; “indigenous, recreational and commercial allocation”; and a number of more conceptual papers grouped under the headings of “temporal and spatial systems of allocation” and “approaches to the allocation problem”. “Allocations within sectors” included “recreational allocation” and “allocation and reallocation within the commercial sector”.

Table 2. Speaker Affiliations

Affiliation	Speakers
Government	62
Academic	27
NGO	13
Private Sector	11
Other	3

The notion of “sector” was debatable, in the sense that the indigenous sector overlaps with the commercial and that some papers did not fit into either the “allocation across sectors” or the “allocation within sectors” subtopics. On the whole, however, the logic of the division was clear and as consistent as possible under the messy circumstances that characterize fisheries.

A final distinctive element of the conference was the large number of keynote and invited speakers, who numbered 22 out of the total 116 speakers. In combination with the effective use of daily rapporteurs and conference overview speakers on the last day, this innovation gave the conference an admirable coherence and sense of purpose.

Allocation can be seen as the implementation challenge of assigning rights to fish. In this sense, *Sharing the Fish 2006* built directly

on the foundation laid by its predecessor, the Fish Rights 1999 conference. Whether deliberate or not, the selection of keynote speakers for *Sharing the Fish 2006* fostered the impression that individual transferable quotas (ITQs) are the ideal path to allocation. Two of the three conference keynote speakers, Peter Pearse and Gary Libecap, purveyed this point of view along with Ragnar Arnason, one of the invited speakers for the conference.

The argument for ITQs is well known and was clearly presented by these three speakers. When quota rights can be assigned such that they are secure, transferable and permanent, they result in fisheries that are ecologically sustainable because quota holders gain the incentive to care for the resource that they now own. Ecological considerations, previously externalities, are now internalized under ITQ systems.

Of most interest in relationship to this perspective, and perhaps in dissonance with the intentions of the conference organizers, several strong voices pointed to the limitations of the ITQ approach. The most forceful critique came from the invited speaker and representative of the International Collective in Support of Fishworkers (ICSF), Chandrika Sharma, whose staunch advocacy of the small-scale fisher perspective came like a cry in the wilderness. Sharma pointed out that a very small minority of the world’s fishers are subject to ITQs and wondered why such a high-profile conference was devoting so much attention to an issue of relevance only to a small proportion of the globe. As she and members of the small South African delegation to the conference noted, ITQs threaten the livelihood basis of small-scale fishers. Moeniba Isaacs and Andrew Johnston showed in their presentations how artisanal fishers in South Africa have been badly divided, and had their ability to make a living from fishing undermined by the recent South African legislation that has based all South African fisheries on ITQs. The inequity of ITQs was echoed by Frank Alcock and the two end-of-conference overview speakers,

When quota rights can be assigned such that they are secure, transferable and permanent, they result in fisheries that are ecologically sustainable because quota holders gain the incentive to care for the resource that they now own

The lack of sufficient participation by delegates representing the world's most populous fishing regions meant that the conference did not adequately discuss allocation and rights-based approaches appropriate to the majority of the world's fisheries, which are highly complex, diverse and rapidly changing

• Susan Hanna and Ray Hilborn, who affirmed the challenge to equity that ITQs represent even in countries of the North.

• **Weak defence**

• The three proponents of ITQs seemed unable to defend themselves against these challenges, saying that while ITQs might increase inequity, the broader environmental and social benefits they brought were worth it. Pearse succinctly encapsulated this response by stating that it is the end, not the means that is important, a statement I personally found highly problematic as it goes against the increasing emphasis on process and social justice that has informed theories of co-management and fisheries governance in recent years. I was also troubled by the amiable reasonableness of the ITQ proponents, which softened an otherwise harsh message.

• The lack of sufficient participation by delegates representing the world's most populous fishing regions meant that the conference did not adequately discuss allocation and rights-based approaches appropriate to the majority of the world's fisheries, which are highly complex, diverse and rapidly changing. The invited speaker Mahfuzzudin Ahmed did list allocation alternatives for tropical fisheries but at a level of generality that sparked little debate. ITQs are clearly of little relevance in most complex developing country fisheries. What is the cutting edge in community-based quotas? How can allocation be worked out between semi-industrial fleets and small-scale subsectors with thousands of units? While I can see the real advantages of introducing ITQs for semi-industrial fisheries in developing countries for capacity reduction and sustainability, how could such ITQs co-exist with other forms of rights for the small-scale subsector that would have to be extremely well protected? How do we manage large and complex fisheries that are also data-poor and in regions where governance is weak? How can fishers be protected when coastal tourism, industrial development and oil exploration move into

traditional fishing grounds? It is not enough to leave such questions to the very end of the deliberations, for the conference overview speakers; and it makes me wonder why the FAO was not able to put such questions more forcibly on to the agenda of the conference.

Despite these concerns about the conference, within the confines of the largely antipodal group of papers at the conference, there were many that provided examples of challenges—and creative solutions—similar to those encountered in the fisheries of the South. The Maori case in New Zealand, for example, as introduced by the invited speaker Alison Thom, shows that strong communities can participate in an ITQ process and come out ahead.

Equity implications

It would be interesting, nonetheless, to see a more disinterested presentation of that process, and to hear about the equity implications of sharing quota for the communities. The Alaskan native quota allocation case would be another example to consider. There are surely lessons from many of the other papers presented at the conference that may be helpful for the majority-world fisheries. One example was the paper presented by Claire Anderson, which discussed the development of a more transparent instrument for inter-sector allocation by the Queensland government.

If the debate over the applicability and equity of ITQs bumped along mostly in the background during the conference, two topics created a buzz during the event. The first of these followed the presentation of Rosemary Rayfuse, who talked about allocation across jurisdictions. She argued that the principle of freedom of the high seas has now been sufficiently constrained by international agreements that it should be withdrawn.

In effect, obligations under international law, particularly when regional marine fisheries organizations are involved, have created a situation where there are now legal

instruments to control access and allocate fish stocks on the high seas. These instruments are still far from perfect, and illegal, unreported and unregulated (IUU) fishing persists to the degree that some observers, such as another invited speaker, Gordon Munro, are pessimistic about their ever being controlled.

The increasing concern of international organizations like Greenpeace, represented at the conference by Alistair Graham, for the protection of deep-sea mounts may be a recognition that the time may have come for effective restrictions on such sensitive areas. The question that arises, however, is whether so much effort on the part of international organizations should be invested in environmental areas that are marginal to the livelihoods of the world's fishers. In terms of social benefit, it would seem a better use of resources to focus on threats to the tropical coastal waters where most of the world's fishers and marine biodiversity co-exist.

The second topic that stimulated considerable interest at *Sharing the Fish Conference 2006* was triggered by an example given by Pearse, and relates to ITQs and allocation across sectors. Pearse stated that the Canadian Minister of Fisheries has recently given an ITQ share to the recreational fishery sector for halibut on Canada's Pacific coast. This arrangement satisfied the commercial halibut sector, which had been increasingly concerned about the growing share of fish caught by the recreational sector. The advantage for the commercial sector was that, in future, any further growth in the recreational catch would have to be purchased from them, and they would thus get a fair market rate instead of the gradual erosion of their quota as had been occurring. The buzz at the conference revolved around the innovation of giving a transferable quota to a disparate group of unorganized recreational fishers who would have little choice but to become organized in order to administer their new right. This experiment clearly stimulated the minority-world

fisheries managers present, all of whom face large and growing demand from recreational stakeholders. It is less relevant for places like India, where recreational fishing is virtually nonexistent. Nonetheless, it does raise an interesting comparison with small-scale sectors in majority-world fisheries, which also have large numbers of diverse stakeholders who often lack effective institutional means for negotiating their rights.

As these points demonstrate, the *Sharing the Fish Conference 2006* was a stimulating forum. Clearly, however, it would be preferable, in future, to seek much greater participation from the majority areas of the fisheries world. If that is not possible, then it would be wise to indicate more clearly that such a conference is geared primarily towards the interests of the fisheries of the North, a small minority in global terms. It would be a pity if this were the outcome, however, as *Sharing the Fish Conference 2006* and its predecessor *FishRights99* have been important milestones on the path to improving fisheries management. ■

No one-size-fits-all approach

Ichiro Nomura

This response to an article in *SAMUDRA Report* No. 43 discusses rights-based schemes in fisheries

I refer to Derek Johnson's article, "Who is Sharing the Fish?", in *SAMUDRA Report* No 43 (March 2006), discussing the *Sharing the Fish 2006 Conference* that was held in Australia last February and to which the Food and Agriculture Organization of the United Nations (FAO) gave technical support. While the tone of the article is positive regarding the conference, and its outcome in supporting better-managed fisheries, I would like to emphasize a few points:

The FAO Secretariat has moved, beyond a doubt, on the matter of whether fishing rights are good or not. They are absolutely necessary and fundamental to the sustainability of the world's fisheries resources.

However, fisheries policies, management approaches—and fishing rights—need to be tailored to the specific context of countries and localities with respect to the fisheries in question, the social setting, culture, etc. Indeed, fishing rights have been allocated under long-standing programmes, such as the community development quota (CDQ) systems that have been operating in fishing communities in the Bering Sea; the various types of territorial use rights in fisheries systems (TURFs) such as those found in Japan, the Philippines, Samoa and Fiji; the Management and Exploitation Areas for Benthic Resources of Chile; and the beach management units (BMUs) found in Uganda, Tanzania and Kenya. It is for communities to decide on how efficient they would like their fisheries to be, with few or many boats of small or large size.

Fishing rights do not simply equate to the big individual transferable quota (ITQ) systems that have been designed for large-scale fleets. Moreover, fishing rights should not be limited to large-scale fisheries. The current variety of schemes for formally allocating fishing rights has vastly expanded the range of fisheries and fishing situations to which rights-based schemes can be applied. They should apply to large and small fisheries, both with large and small boats. They are, by far, the best tool to re-establish and formalize traditional fishing rights and, thus, protect the rights of fishermen. Even ITQs need not threaten the livelihoods of small-scale fisheries, and they should not foster inequity if well designed.

There is no one-size-fits-all approach, and more attention needs to be given to appropriately sequence policies and policy reforms. Perhaps it is time to convene an international conference on the allocation of rights in small-scale fisheries, to which I am sure ICSF would be able to contribute. ■

This Letter to the Editor is from Ichiro Nomura, Assistant Director General, Fisheries Department, Food and Agriculture Organization of the United Nations (FAO). This article first appeared in *SAMUDRA Report* No. 44, July 2006

Fishing rights vs human rights?

Naseegh Jaffer and Jackie Sunde

An ongoing class action litigation in South Africa brings to focus the challenge to the rights-based management system in the country’s fisheries

A group of South African artisanal fishers has launched class action litigation against the Minister responsible for fishing rights allocation on the grounds that the policies pursued by the South African government are inequitable and discriminatory, and violate the human rights of artisanal fishers in the country. Is it possible that the introduction of a rights-based management system might violate the human rights of certain fishers?

South Africa began introducing a rights-based fisheries management system as early as the 1960s, when quotas were introduced by the Department of Sea Fisheries for a limited number of commercially exploited species. From 1988 onwards, the Department allocated rights in terms of the Sea Fisheries Act 12 of 1988. These quotas were allocated within a racially defined fisheries structure and were largely held by white rights holders, while the artisanal fishery was being marginalized. Highly capitalized commercial companies predominated in the industry during this period.

Following the election of the first democratic government in 1994, the government began a process of restructuring the fishing industry and developing new legislation and policies to guide the allocation of fishing rights and the management of these rights. Towards this end, the Marine Living Resources Act (MLRA) was introduced in 1998.

This Act empowered the Minister of Environmental Affairs and Tourism to allocate fishing rights in three defined fishing categories: subsistence, commercial and recreational. No provisions for artisanal

fishers were included in this Act and the legislation states clearly:

“no person shall undertake commercial fishing or subsistence fishing, engage in mariculture or operate a fish processing establishment unless a right to undertake or engage in such an activity or to operate such an establishment has been granted to such a person by the Minister” (MLRA, 1998,18 (1)).

In terms of the MLRA, a fishing right is granted to a specific person or entity and, “in terms of Section 21 of the MLRA, the right may not be transferred without the approval of the Minister or his delegate. Upon the death, sequestration, or liquidation of the right holder, the right vests, respectively, in the executor, trustee or liquidator and the right may continue to be exploited for the period of time permitted by the applicable legal provisions. However, any transfer of the fishing right to a third party requires approval” (General Fishing Policy, 2005).

Following the introduction of this Act, the government established a Subsistence Fisheries Task Group (SFTG) to investigate the nature and extent of subsistence fishing and to advise on the management of this sector. This task group undertook research along the coast in South Africa and identified approximately 30,000 subsistence fishers.

Most significantly, the SFTG recognized that three categories of fishing practices could be discerned amongst these fishers, based on the empirical survey data that was gathered for this purpose.

This article is by Naseegh Jaffer, Director of Masifundise Development Trust, South Africa, and Jackie Sunde, a Researcher for Masifundise, and Member of ICSE. This article first appeared in SAMUDRA Report No. 44, July 2006

Artisanal fishers historically live in communities near the shoreline, use low-technology fishing gear, and harvest a variety of marine species found near the shoreline. Over generations, they have developed an understanding of the main biological lifecycle and migration patterns of certain marine species

According to a 2005 affidavit by Ken Salo, presented in support of the court case of Kenneth George and others vs the Minister of Environmental Affairs and Tourism, these three categories “were classified as subsistence, artisanal and commercial according to a comprehensive combination of social, economic, technical, spatial, ecological and historical criteria that did not weigh any one criterion more than the other”.

In South Africa, the artisanal fishery has specific characteristics. Artisanal fishers historically live in communities near the shoreline, use low-technology fishing gear, and harvest a variety of marine species found near the shoreline. Over generations, they have developed an understanding of the main biological lifecycle and migration patterns of certain marine species. Their catch is either consumed, shared, bartered or marketed through a complex set of relations and traditions developed between men and women, families, neighbours and local retailers. In this manner, fishing communities have developed a culture and caring for one another’s livelihood.

There was considerable debate regarding the definition of artisanal fishers, and, although it was acknowledged by the Task Group that their needs should be accommodated, no formal recognition of this group legally ensued.

Business and the large-scale commercial companies actively lobbied the authorities to maintain the status quo regarding the allocation of quotas and not to re-allocate to the artisanal or small-scale sector to any extent. They argued that government could best achieve its transformation and redistribution goals by supporting established industry to provide employment and to increase its black empowerment component. They were also successful in wooing organized labour in these companies to support them by promising them job security and, in some instances, a share in the profits through worker share schemes.

Following the introduction of the new legislative framework, the government department responsible for allocating and managing fishing rights, Marine and Coastal Management, developed a medium-term fishing rights allocation policy with a view to allocating rights for the period 2002 -2005. It was intended that a long-term rights allocation policy would be implemented following this initial period. The medium-term rights period did not recognize artisanal fishers as a category of fishers on their own and instead forced them to apply for ‘commercial’ or ‘limited commercial’ rights.

Limited rights

Only a small number of artisanal fishers were successful in obtaining these limited commercial rights and those who did get rights were allocated totally unsustainable quotas. Many bona fide fishers were left out of the system completely and hence no longer had access to the sea. Others were able to eke out an existence by working for rights holders in one or other sector at certain times of the season but often had no income during other times of the year.

During 2005, Marine and Coastal Management released the Draft Long-term Fishing Rights Policy, which would effectively allocate long-term rights for up to 15 years in 19 of the commercial species. Artisanal fishers up and down the coast held high hopes that this policy would recognize and accommodate them; however, this new policy further entrenched their exclusion. The application process was extremely costly and complicated, and the application forms were only provided in English, which is not the home language of the fishers. The fishers were forced to either form companies or other legal entities with others and compete with the large commercial companies for the high-value species or apply as individuals for meagre quantum in a few limited nearshore species.

The majority of the artisanal fishers have been completely excluded from obtaining

long-term fishing rights. For example, in the nearshore West Coast rock lobster sector, of the 4,070 fishers who applied, only 813 have been allocated rights. Those who have been allocated rights have only received between 250 and 750 kg per annum. Once their catching and marketing costs have been deducted, these fishers will barely be living above the poverty line and those allocated only 250 kg will be way below the poverty line. Those who did get long-term rights have to operate in the narrow confines laid down in the policy. They are not skilled operators within this system and thereby remain totally vulnerable to exploitation.

The past 18 months have seen unprecedented action by the artisanal sector in South Africa as the fishers fight for their rights to their traditional livelihoods and those of the coastal communities in which they live, which depend on the artisanal fishing economies. They have embarked on a range of advocacy and lobbying activities, including numerous letters and memorandums to the Ministry and Presidency, meetings with officials, marches on Parliament, the chaining of leaders to the gates of Parliament, a hunger strike and vigil by veteran artisanal fisher activist Andrew Johnston, and building strong alliances with other stakeholders in civil society.

Currently, the fishers' hopes are pinned on the outcome of litigation, which they have launched with the support of Masifundise Development Trust, members of the Artisanal Fishers Association of South Africa and the Legal Resources Centre. The Legal Resources Centre, a non-governmental organization (NGO), is funding this class action against the Minister, and has launched papers on behalf of the artisanal fishers in this regard. The court cases have been launched in both the High Court and the Equality Court. The Equality Court is a new court introduced in South Africa, following the introduction of the first democratic Constitution in the country in 1996. The Equality Court aims specifically to give effect to the Equality Clause in the Constitution, which states that "everyone is equal before

the law and has the right to equal protection and benefit of the law" (Section 1).

In order to provide the legal framework for this protection, the Promotion of Equality and Prevention of Unfair Discrimination Act of 2000 was promulgated. This Act states: "Neither the State nor any person may unfairly discriminate against any person" (Section 6). The argument presented by legal counsel for the artisanal fishers centres on the belief that the Minister's failure to define and provide for the artisanal fishers in the Marine Living Resources Act of 1998, and the consequences of this failure on the lives and livelihoods of this fishing community, constitute a violation of a number of human rights contained in the South African Constitution. Matters of 'non-equality' nature in this case will be argued in the ordinary High Court.

Right to choose

The artisanal sector argues that the Minister has deprived them of their right to choose their trade or occupation. Section 22 of the South African Constitution provides that "every citizen has the right to choose their trade or occupation freely" (Constitution of South Africa, 1996, Section 22). According to a 2004 affidavit filed by Naseegh Jaffer on behalf of Masifundise in the matter between Kenneth George and others vs the Minister of Environmental Affairs and Tourism: "These fishers are faced with the untenable options of either forsaking their traditions and the skills passed between generations of fishers, and entering a commercial fishing industry for which they are not skilled, or resigning themselves to a life of poverty outside the framework of legal fishing operations, risking prosecution and criminal sanction. It is thus believed that these options do not constitute a proper 'choice' of trade or occupation as contemplated by the Constitution and are, accordingly, unlawful and unconstitutional".

It is also argued that the current legislative framework violates a number of other basic socioeconomic rights, most notably, the right

The fishers argue that the way in which the policy and application process has been administered violated several key constitutional provisions

of access to sufficient food, and hence the internationally recognized right to food security is threatened. The impact of this violation is felt by not only the fishers but by all members of their households and the extended community that depend on these livelihoods within the local marine and coastal economy. The right to healthcare, housing and education, and the rights of the child to basic nutrition are threatened by this violation, and hence are also cited in the arguments to be presented to the Courts. The right to have the environment protected through reasonable legislative and other measures is central to the case as the Minister has a duty to develop legislation that fulfills this right whilst promoting the sustainable use of the country's natural resources. In addition to the abovementioned socioeconomic rights, the fishers argue that the way in which the policy and application process has been administered violated several key constitutional provisions, namely, the right of everyone to use the language of their choice. Enshrined in this is the duty imposed on the State to "use at least two official languages and to ensure that all official languages are treated equitably". The failure of the Department to provide application forms in the home languages of the fishers greatly exacerbated the difficulties experienced by the artisanal sector in understanding what was required of them when applying for rights. This aspect is directly linked to the right to reasonable administrative action, which is also a right protected by the Constitution.

This case argues that all of the above-alleged violations of the rights of artisanal fishers arise because the State, through the Minister, has failed to treat the fishers equitably in comparison to the other fishing sectors. In failing to do so, the law is inequitable and discriminatory and hence violates the central tenet of the Constitution, that of the Equality Clause.

The Minister of Environmental Affairs and Tourism has, to date, fought the legal proceedings by appealing against the decision to hear the matter in the Equality Court. The

fishers were heartened by the judgment of the Appeal Court that insisted that the fishers had the right to have the matter heard in this Court and noted that the Minister should not deny the fisher's prayer to have their say in court. The advantage of the matter being heard in the Equality Court as well as the High Court is that the Equality Court is empowered to order a variety of forms of redress, if it is deemed necessary. This raises the hope that it may yet be possible to envisage a real, rights-based fisheries management policy in South Africa, one based on the principles of social justice and the rights enshrined in the country's Constitution, and upon which the future of South Africa's new democracy rests. ■

Opening the tragedy?

Bjørn Hersoug

Institutional reform and the need for reallocation should figure prominently in policy on fishing rights, especially in developing countries

Through the last two issues of *SAMUDRA Report*, we have witnessed an interesting debate regarding the allocation of fish rights. First, Derek Johnson reflected on the *Sharing the Fish Conference 2006*, held in Australia, pointing out the traditional dominance of the rich ‘temperate minority’ countries over the Southern developing countries in matters of presentations, discussions and solutions (see *SAMUDRA Report* No. 43, March 2006, pg. 11). Later, Ichiro Nomura, Assistant Director General in the Fisheries Department of the Food and Agriculture Organization of the United Nations (FAO), came up with a reply, claiming that rights-based fisheries are the solution but admitting that ‘one size does not fit all’, ending with the suggestion for a conference where focus should be on the challenge of allocating fishing rights in developing countries (see *SAMUDRA Report* No. 44, July 2006, pg. 25).

My reflection here is on the dilemmas contained in this challenge. Before that, however, a clarification on rights-based fisheries management in the North. Rights-based management comes in many forms, including licensing and individual as well as community quotas. Individual quotas may again be allocated as individual fishing quotas (IFQs), individual vessel quotas (IVQs) or individual transferable quotas (ITQs), each with special features and outcomes. All solutions are well known in the North (and ‘down under’ South), but during the last 10 years, focus has increasingly been on the ITQs, a fact reflected also at the first *Fish Rights 1999*, where New Zealand and Australia featured prominently.

I think it is fair to say that ITQ systems, as originally developed in New Zealand and Iceland and later copied in at least 15 other countries, have experienced differential success. They have, most often, improved the economic performance of the fisheries, and have contributed to more sustainable fisheries in biological terms (although hard evidence is still often lacking), but they have generally been weak on equity, especially in terms of neglecting crews and local communities. Some countries, like the United States, have introduced community quotas (as in Alaska), but these attempts have been few and marginal compared to the massive drive towards ITQs or systems closely resembling them (as is the case with the Norwegian IVQ system). Generally, these countries have the human and economic resources necessary to run ITQ-systems, and, even more important, they have (although to a variable degree) alternative employment possibilities for fishers who are made redundant. To illustrate, Norway had 115,000 fishers in 1946, but it now has fewer than 15,000. Yet, this decline has not created any major unemployment problems.

The problem arises, as pointed out by John Kurien in *People and the Sea: A Tropical ‘Majority World’ Perspective*, when the ITQ-missionaries start preaching the ITQ gospel to large developing countries with thousands of artisanal fishers, like China, India, Indonesia and Vietnam, and also smaller ones in Africa and Latin America.

Greater caution

FAO is a little more cautious, advocating in favour of *rights-based fisheries*

This article is by Bjørn Hersoug of the Norwegian College of Fishery Science, University of Tromsø, Norway. This article first appeared in *SAMUDRA Report* No. 45, November 2006

Figure: A Framework to Identify the Occurrence and Types of Poverty (Béné 2004)

management (although not necessarily ITQ systems), with the rhetorical bottom-line that without biological sustainability, all fishers are going to end up poor. According to Nomura, “The current variety of schemes for formally allocating fishing rights has vastly expanded the range of fisheries and fishing situations to which rights-based schemes can be applied.

They should apply to large- and small-scale fisheries, both with large and small boats. They are, by far, the best tool to re-establish and formalize traditional fishing rights and thus, protect the rights of fishermen. Even ITQs need not threaten the livelihoods of small-scale fisheries, and they should not foster inequity if well designed.”

As indicated by Johnson in his *SAMUDRA Report* article, there are good reasons to be sceptical about too simple solutions. While donor agencies have gradually changed their priorities, more in favour of small-scale fishers and, in particular, targeting the poor (and for a period ‘the poorest of the poor’), the underlying logic has all along been that fishers in developing countries are generally poor, measured against any standard.

However, as pointed out by C. Béné (*When Fishery Rhymes with Poverty: A First step Beyond the Old Paradigm on Poverty in Small-scale Fisheries*, *World Development* 31, No. 6, 2003), in the current literature on poverty there is almost a complete absence of references to case studies from fisheries. Béné attributes this lack of references not to the low number of fishing studies portraying poverty but to the nature of scientific production and the way the literature proposes to explain the cause(s) and origin(s) of poverty in small-scale fisheries.

Generally, there seem to be two contrasting interpretations of the relationship between poverty and fisheries. The first claims, “They are poor because they are fishermen”. Within this intellectual tradition, there are two lines of reasoning. One has its origins in H. S. Gordon’s classic paper on open-access fisheries (*The Economic Theory of a Common-Property Resource: The Fishery*, *Journal of Political Economy* 62, 1954), an idea that was powerfully reinterpreted in Hardin’s seminal article, describing the tragedy of the commons (*The Tragedy of the Commons*, *Science* 162, 1968).

Here the open-access nature leads to more and more people entering the fisheries, resulting in overfished resources, an elimination of the resource rent and, ultimately, in the impoverishment of the fishers and their communities. This intellectual tradition is a solid one, with a large number of contributions from both scientists and donor organizations. There is no doubt that overexploitation is a major cause of impoverishment, but not necessarily the major cause.

Exogenous origin

While poverty, in this tradition, is explained as an endogenous effect, the exogenous origin of poverty is explained by showing the low alternative cost of labour in the fisheries. Writing on the particular problems of small-scale fisheries, T. Panayotou pointed to the fact that most fishers (in Asia) have a low alternative cost of labour, and with easy access and difficult exit they are ‘trapped’ in the fisheries (*Management Concepts for Small-scale Fisheries: Economic and Social Aspects*, FAO Fisheries Technical Paper 228, 1982).

In other words, the situation *outside* the fisheries is most important. However, several writers combine the two explanations without making the necessary distinction, thus confusing the analytical understanding of what causes poverty in the fisheries.

The other major idea—”They are fishermen because they are poor”— indicates that fisheries is an employer of last resort, where those falling out of the agricultural system can manage to eke out a living by fishing. Common-property resources are, therefore, extremely valuable for poor people, and any attempt to close the participation may result in increased poverty. The coastal fisheries in Mozambique may be a good case in point, where large numbers of people have migrated from the countryside to the coast, because of the civil war and the problematic agricultural situation. They have taken up subsistence fishing, partly in competition with

existing fishers. Limiting access for them would often be a life-and-death matter.

Both solutions (limiting access and providing alternative employment) have been utilized by a variety of donor-assisted fisheries projects, with mixed success. The latter approach opens the way for a diametrically different policy than the former. If the fisheries is seen as an essential employer of last resort, within a much larger system of livelihood creation (based on various resources and various occupations), it is hard to stick to the idea of sector development. It is even harder to limit access in the classic way done in Western, developed fisheries. On the other hand, unlimited access can cause severe damage to a developing fishery. So what should we do? If we limit access to ‘traditional fishers’, ‘original fishers’ or ‘existing fishers’, we run the risk of cutting off an important source of livelihoods for poor coastal populations, while, if we keep the commons open, the resources will sooner or later be fished down.

Some try to escape the dilemma, by pointing to the fact that open access does not necessarily have to produce the tragedy.

According to one study (*Management, Co-management or No Management? Major Dilemmas in Southern African Freshwater Fisheries*, FAO Fisheries Technical Paper 426/1, FAO, 2004), classical management approaches applied to the inland lake fisheries in southern Africa have been misplaced, being led by patchy or simply wrong information regarding fishing effort (catching capacity).

The main argument is that the catching capacity of the inland lake fisheries has been extremely variable, fluctuating not only with the amount of fish available (following natural variations), but also following macroeconomic variations, thereby creating increasing or decreasing opportunities in other occupations. During severe droughts, many people are naturally attracted to the fisheries, while when the situation is more normal, they will return to former occupations. Capacity moves up

If the fisheries is seen as an essential employer of last resort, within a much larger system of livelihood creation (based on various resources and various occupations), it is hard to stick to the idea of sector development

and down as a result of numerical flexibility, while few fishers have invested in more efficient gear or vessels. Most fishers in the southern African inland fisheries are not specialist fishers. They have fishing as one of several possibilities in a livelihood repertoire. Even if the total effort has increased in all inland lakes' fisheries, this increase is not always considered serious enough to warrant limiting access. Limiting access under these conditions would only aggravate the situation for the poor. In some cases, *no management* can actually be better than the existing regime!

Greater mobility

This is, no doubt, an important result, having profound consequences for management of the fisheries in these lakes, but it is difficult to generalize and extend these findings to other artisanal fisheries, for example, in the marine sector, for several reasons.

First, because of greater mobility in marine fisheries, it is much more difficult to maintain the idea of slow growth. Vessels from neighbouring countries as well as distant-water fleets will easily operate in fisheries that seem promising and profitable. This is even more so since most developing countries do not have an efficient system of monitoring and control.

Second, it seems that technological improvements are much more easily spread in the marine fisheries. This is partly because marine fishing, especially in several Asian countries, is extremely dynamic, with access to varied sources of capital and with few obstacles in acquiring more efficient gear.

Third, much of the marine catch is now meant for a world market, being within reachable destinations and quality standards, and market opportunities are much greater than those for African inland lake fisheries.

Finally, there are good reasons to return to Panayotou's argument about easy access and difficult exit or Daniel Pauly's concept of 'Malthusian overfishing' (*On the Sex of Fish*

and the Gender of Scientists: Essays in Fisheries Science, Chapman and Hall, 1994). While this may not be the case for inland fisheries in southern Africa, it is definitely the case in a number of Asian fishing nations. Effort is being increased both vertically (improved technology) and horizontally (numerically).

In sum, these factors would indicate that we cannot be too optimistic regarding the catching capacity in the marine fisheries. Even if stock assessments are scarce, we know enough to say that the fishing pressure on near-shore resources in a number of large fishing nations in the Third World, especially in Asia, is not sustainable in biological terms. Still, we should maintain the institutional perspective, turning "the research away from the issue of natural resources limitations per se, toward social, cultural and political elements which shape the relationships between poor people and these natural resources and between poor and less poor people" (Béné, 2003).

There is no clear-cut solution to this dilemma, but perhaps we should start discussing more in the direction of policy reform, that is, on the need for reallocation. While fisheries economists are eager to make a distinction between management and allocation, I believe that there is a clear connection.

Effective management

Without a better, more legitimate allocation, it will prove impossible to introduce (and maintain) an effective management system. Again, I find it useful to return to a scheme developed by Béné (*The Challenge of Managing Small-scale Fisheries with Reference to Poverty Alleviation*. In Neiland, A. and C. Béné (Eds.): *Poverty and Small-scale Fisheries in West Africa*. Kluwer Academic Publishers, Dordrecht, 2004).

One route to poverty is via the lack of surplus generation, caused by lack of efficient gear or an ecological crisis (a temporary disappearance of the exploited stocks). But

even with surplus generation, there may be poverty, because of what is called an institutional entitlement failure. As Béné puts it: “In other words, satisfying the constraints of ecological and economical viabilities is a necessary, but not sufficient, condition to reduce the level of, or to prevent the occurrence of, poverty in fishery. A second necessary condition is the existence of some sort of (re-)distribution mechanism which will ensure that the rents generated through fisheries activities are redistributed (either directly or indirectly) to the community/society. If such mechanisms do not exist, the rent is likely to be appropriated by the most powerful, and poverty will occur.”

Béné concludes by saying, “Poverty in fisheries [may be] more related to institutional factors than to natural ones”. If this is the case—and I happen to believe Béné’s analysis is correct also outside west Africa—more effort and thinking need to be devoted to institutional reform. The point is simple: rights-based fisheries management may secure some type of ownership, be it individual or collective. But we need to secure rights for the right people. That can only be done through institutional reforms, giving some type of preferential access to the poor fishers. This can be done in many ways. Indonesia, for instance, has shown the beneficial results of prohibiting trawling in the near-shore fisheries.

In other cases, fishing rights have to be reallocated. Needless to add, this will be difficult. Even in developed countries, it is extremely complicated to carry out redistributive reforms. But this institutional requirement has to be set on the agenda, and one start could be made by donor organizations operating in fisheries contributing to the buying out of more powerful interests. While confiscation was the key to many previous land reforms, the principle of a ‘willing buyer’ and a ‘willing seller’ is more appropriate at present. To phrase it differently: starting a new fisheries policy by confiscating the rights of the most powerful will quite often be detrimental. I

am not saying that direct reallocation of rights and quotas can be done in all developing countries’ fisheries, but we certainly need to start the process of considering such reforms. If not, we will repeat the case of the South African fisheries reform, where a large part of the bona fide fishers were excluded from participating precisely because the reforms mainly catered to the more powerful interests. Institutional reform and the need for reallocation should figure prominently in policy and a future conference on rights-based fisheries should perhaps be called ‘Fishing Rights to the Right People’. Even if one size does not fit all, *reallocation* will certainly fit most poor fishers. ■

The point is simple: rights-based fisheries management may secure some type of ownership, be it individual or collective. But we need to secure rights for the right people

The litmus test

Svein Jentoft

Unless it can be demonstrated that a property-rights regime will increase the welfare of those most in need, we all have legitimate reasons to remain sceptical

Recently property rights have been heralded as *the* solution to the ‘fisheries problem’ (that is, overfishing)—by economists at a conference in Australia (see article by Derek Johnson, “Who’s sharing the fish?”, *SAMUDRA Report* No. 43, March 2006) and by leading institutions such as the Food and Agriculture Organization of the United Nations (FAO) (see piece by Ichiro Nomura, “No one-size-fits-all approach”, *SAMUDRA Report* No. 44, July 2006). That comes as no surprise. It is old news. The puzzle worth pondering however, is this: If property rights are such a blessing to fisheries as alleged, why are they so often received with animosity within the fishing population? Let me suggest the following possibilities:

The reason could be that people do not get the message; it is either incomprehensible or they are not yet ready for it. They may not see the problem for which property rights are held to be the solution. Thus, what is needed is more effective communication to make people understand the significance of the message and feel better about it. Maybe it is not property rights *per se* that people find so problematic, but the particular kind of property rights that is promulgated. To proclaim that property rights “are absolutely necessary and fundamental to the sustainability of the world’s fisheries resources” (Nomura) does not say much unless one is willing to specify what type of property rights one is talking about: private property, common property, community property, State property, corporate property, etc.— which all come in various forms and have different implications. Therefore, if the

argument had been more nuanced and people were offered a set of alternative property-rights solutions that they could relate to, they might be more supportive.

But perhaps the problem lies elsewhere. People may both understand the message and see its merits, and yet oppose it because they see it as threatening to their livelihoods and ways of life. For people living under an open-access regime, the property-rights concept is often perceived as an alien and inappropriate concept: “How can somebody acquire privileged ownership of a resource that was free for all to share?” If that is the case, a more cautious presentation that does not ignore people’s unease might do the job.

Still another explanation for people’s defiance may be that property rights do not offer any solution to what people perceive as their most important and urgent problems: “Whatever the problem property rights are supposed to solve, my problem is another one.” If you, for instance, struggle to feed your family on a daily basis, a property-rights regime might not figure high on your priority list. I can think of yet another reason, which is perhaps the most likely one, why many fishing people show resistance to the property-rights systems favoured by economists: They have already suffered their consequences. They, in contrast to academics, fisheries managers and others who believe so strongly in property rights, know how it feels to lose access to the resource.

Standard definition

But in order to understand what the problem is really all about, we need to dig even deeper

This piece is by Svein Jentoft (Svein.Jentoft@nfh.uit.no) of the Norwegian College of Fishery Science, University of Tromsø, Norway. This article first appeared in *SAMUDRA Report* No. 46, March 2007

Fulfilled, healthy, secure?

John Kearney

Conventional fisheries management has been dominated by the enclosing-the-commons model, even as small-scale fishers demand social justice and ecological sustainability through recognition of their fishing rights

A debate has emerged in the last three issues of *SAMUDRA Report* (Nos. 43-45) about rights-based fisheries and the allocation of fish resources. The debate was triggered by Derek Johnson in his review article on the *Sharing the Fish Conference 2006* in Australia, in which he describes how the discussions on rights-based fishing were dominated by presenters from the rich, “temperate-minority” countries. Debate at the conference thus tended to focus on the options preferred by policymakers and economists in these countries; namely, market-based access rights and allocation mechanisms, such as individual transferable quotas (ITQs). Conference participants had little to say about the applicability of these or alternative rights schemes to the tropical-majority countries.

Ichiro Nomura, Assistant Director General of Fisheries of the Food and Agriculture Organization of the United Nations (FAO) highlights in the next issue of *SAMUDRA Report* that fishing rights and rights-based schemes are “absolutely necessary and fundamental” to the sustainability of all the world’s fisheries. However, the configuration of these rights needs to be tailored to the specific social setting of the countries in question. He proposes that it may be an opportune time to organize an international conference on the allocation of rights in the small-scale fisheries that dominate the tropical and developing countries.

Finally, in the last issue of *SAMUDRA Report*, Bjørn Hersoug picks up the thread by connecting the debate over rights-based fishing to the existence of widespread poverty in fishing communities throughout the

developing world. He concludes that poverty may be more related to institutional failures than ecological or economic ones, and thus institutional reform is a prerequisite for the establishment of right-based fisheries in order to ensure preferential access to individual or collective rights for poor fishers. For Hersoug, a conference on rights-based fishing should perhaps be entitled, “Fishing Rights to the Right People.”

In response to this timely debate within the pages of *SAMUDRA Report*, I wish to examine more closely what is meant by fishing rights and rights-based fishing. When economists and government officials talk about fishing rights at conferences and in publications and policy documents, are they talking about the same fishing rights that small-scale fishers have been demanding for the last few decades? I say, no. Like many progressive ideas promoted in the recent past by small-scale fishing organizations around the world—ideas like community-based management, ecological fisheries management, and integrated management—the notion of fishing rights has been seized by the academic and bureaucratic sectors, filtered through their market-based frameworks, and promoted as something quite different from the original intent. In other words, the notion of fishing rights has been co-opted to mean not the guarantee of rights but rather the granting of privilege. In most cases, rights-based management consists of the granting of fishing privileges to certain groups within fishing communities as a means of ‘enclosing the commons’. Based on common-property theory, the objective is not to guarantee a fishing people the right to fish, but to exclude as many as necessary to ensure that those

This article is by John Kearney, an independent researcher who has worked with small-scale fishers and fishing communities for the past 28 years. This article first appeared in *SAMUDRA Report* No. 46, March 2007

remaining can capture the wealth produced by the sea for themselves.

If rights-based fishing then has nothing to do with rights, what is the alternative view of rights? In my view, the notion of rights is about a fundamental respect for the human being, and addresses the many conditions necessary for fulfilled, healthy and secure living. If we are going to talk about fishing rights within this understanding of rights, there are a number of dimensions in the lives of fishers that must be considered.

The first is to state that the current distortion in the distribution of the world's resources makes it close to impossible to guarantee this fundamental respect and provide the necessary conditions for every human to have fulfilled, healthy and secure lives. As we increasingly realize the limits on the availability of resources on this planet, it is clear that the guarantee of rights involves not only poverty reduction but also, and just as importantly, wealth reduction on the part of the minority who control the vast bulk of those resources. It is only in this two-pronged approach that there can be the ability to ensure fishing rights since so many fishers are among the world's poorest inhabitants. If the meaning of this view is not immediately evident, let me illustrate by saying that the demand for such products as luxury aquaculture seafood, industrial chemicals and tourism beaches on the part of the wealthy has led to serious degradation of coastal habitats and the viability of fishing livelihoods.

Among the many other dimensions of fishing rights, I would list the following as some of the most important:

1.The right to fish for food

Fishers provide food for their families, communities, regions and country. In Asia and Africa especially, large numbers of people depend on fish protein for their basic nutritional requirements. Local, regional and national food security should be the number one priority of sustainable fisheries management. All fisheries development

should be built on this foundation, not only in developing countries but also in the developed countries where there is an increasing recognition that the most healthy and nutritious food comes from local sources.

2.The right to fish for a livelihood

For many coastal communities, fish, as a renewable resource, has the potential to be an unending means of deriving a livelihood. Coastal communities have depended on this resource for generations, and they should be permitted to continue to find their livelihoods thus for generations to come.

3. The right to healthy households, communities and cultures

Fishing provides not only an income stream to fishing households but is also an activity around which many dimensions of life are organized, and from which meaning is derived by men, women and youth. The way fishing activities are managed and the benefits distributed are crucial in fostering healthy social relations in communities and in nurturing the culture that binds them together.

4. The right to live and work in a healthy ecosystem that will support future generations of fishers

All of the above rights depend on taking care of the environment in which it takes place, living within the limits of what the ecosystem can produce, and without upsetting irreversibly the functioning of that system.

5. The right to participate in the decisions affecting fishing

The protection of fishing rights and their optimal implementation for the benefit of fishing communities requires that everyone in these communities have a voice in decisionmaking. This means placing a high value on the knowledge of fishing people about fishing and the environment, promoting a bottom-up and community-driven decision-making process, and implementing national policies that protect fishing rights.

The development of fisheries and the design and implementation of management plans

As we increasingly realize the limits on the availability of resources on this planet, it is clear that the guarantee of rights involves not only poverty reduction but also, and just as importantly, wealth reduction on the part of the minority who control the vast bulk of those resources

...a fishery based on the fundamental rights of fishing people would result in a fishery where communities shape a future based on providing their basic human requirements for food, livelihood, communal living and a vibrant culture

based on the above-listed rights would look very different from a rights-based fishery as advocated by those who wish to enclose the fishery commons. A rights-based fishery stresses one value: economic efficiency. On the other hand, a fishery based on a guarantee of the fundamental rights of fishing people recognizes their equal status and dignity as members of global society, and their equal right to a fulfilled, healthy and secure life.

A rights-based fishery would allow one factor to determine the future of fisheries development: a privilege granted to a few to promote the sale of fish as a commodity to the highest bidders on international markets. In contrast, a fishery based on the fundamental rights of fishing people would result in a fishery where communities shape a future based on providing their basic human requirements for food, livelihood, communal living and a vibrant culture. It is a fishery where fishing people could begin to realize their dreams to steward the resources of the sea, make friends with them—as some of them would say—own boats and gear, obtain a fair price for their fish, and offer a brighter future to their children.

It is also important to point out that the five fishing rights listed above can all be found in a more generalized form in the Universal Declaration of Human Rights. All too often, the denial of human rights is understood narrowly as the violation of civil liberties, without adequate recognition of the rights to food, livelihood, communal living and culture.

Finally, I wish to conclude by making reference to Derek Johnson who started this debate in *SAMUDRA Report* No. 43. In another article that he wrote last year (“Category, Narrative and Value in the Governance of Small-scale Fisheries”, *Marine Policy* 30, 2006), he argues that the perceived importance of small-scale fisheries may not only lie in the sustainability of their scale of operations but also in the values of social justice and ecological sustainability that small-scale fishers have come to represent in response to the dominant modern

narratives of change. He goes on to state that this view does not always correspond to reality, given those situations where small-scale fisheries have been overly exploitative and ecologically destructive.

The fact that the fisheries of the last 50 years have been dominated by the drive to kill fish and that many are responsible for this mining of the sea, is not at issue. The theme of this article is that fisheries management for the past 30 years has been dominated by the enclosing-the-commons model, at the same time that small-scale fishers have been demanding social justice and ecological sustainability through recognition of their fishing rights. I would argue that the dominant model of fisheries management has contributed to—or, at least, not stopped—the collapse of fish stocks and ecological degradation around the world. It has resulted in greater inequities in the distribution of fisheries benefits, and now has co-opted the notion of fishing rights in support of itself. It is time to recover the true and full meaning of fishing rights, to listen to small-scale fishers, and allow them the opportunity to exercise their fishing rights for a socially just and ecologically sustainable fishery. ■

Private rights tragedy

Marc Allain

This article draws from the Canadian experience to show how flawed economic theory works to undermine sustainable development in fishing communities

The possibility that the Food and Agriculture Organization of the United Nations (FAO) would sponsor an international conference on the allocation of fishing rights focused exclusively on the interests of small-scale harvesters and traditional fishing communities is heartening. Such an event is long overdue and, if it were to provide an opportunity to hear and document those authentic voices that have been resisting and offering alternatives to the private appropriation of public fisheries resources, it would be a good thing. It might even begin to re-establish some sense of balance and objectivity in the debate about the merits of different rights schemes by identifying those that work to support sustainable development in traditional fishing communities and those that undermine it.

If the objectives of such a conference were to include discussions about how the allocation of rights could “re-establish and formalize traditional fishing rights and thus, protect the rights of fishermen”, as Ichiro Nomura of FAO suggests (see pg.82), it would also challenge the central orthodoxy of modern fisheries management; that in their natural state, fisheries develop in the absence of rights and play out the “tragedy of the commons”.

In “Opening the Tragedy?” (*SAMUDRA Report* No. 45), Bjørn Hersoug correctly identifies Scott Gordon’s *The Economic Theory of a Common-property Resource: The Fishery* and Garrett Hardin’s *The Tragedy of the Commons*, as the core intellectual foundations that underpin the theories of modern fisheries management.

But the Hardin contribution to this foundation is seriously flawed when it comes to understanding fishing communities and how they manage fisheries resources held in common. While Gordon recognized that fishermen come together to establish rules to regulate fishing activity, Hardin did not. This is a very significant difference.

Gordon’s treatise recognized that the so-called common-property problem was, in fact, an open-access situation. Even the most primitive of societies, he noted, generally recognized the risks of overexploitation caused by unregulated access, and moved to regulate resource use for “orderly exploitation and conservation of the resource”. Societies that failed to do so, he posited, simply would not survive. Gordon recognized that humans live in societies that impose norms to inhibit socially destructive individual behaviour.

In Hardin’s construct, community or societal regulation is non-existent, and society is but the aggregation of selfish individuals, each seeking their own individual short-term advantage.

Since Gordon understood social control as an essential trait of human society, he did not prescribe the form it should take to avoid resource depletion. (Like Nomura, he appears to have been of the “one-size-does-not-fit-all” school.) On the other hand, the absence of community in Hardin’s flawed analysis led him to prescribe only two options to prevent resource depletion: paternalistic State management or privatization of the common property.

This article is by Marc Allain (marc.allain@sjma.net), former policy adviser to the Canadian Council of Professional Fish Harvesters, and now a Geneva-based fisheries consultant. This article first appeared in *SAMUDRA Report* No. 46, March 2007

• In Canada, unfortunately, Hardin, not Gordon, has been used to understand the problems and make prescriptions for sustainable fisheries management. In fact, it could be argued that Canada's modern fisheries management has followed Hardin to the letter: first, through a short-lived and failed experience with paternalistic State management; and, in the face of failure, the subsequent dogged pursuit, in many of the country's fisheries, of Hardin's alternative—the privatization and concentration of the common property in individual and primarily corporate hands, through market mechanisms.

• The first phase—the one of paternalistic State control—started with the extension of Canada's fisheries jurisdiction to 200 nautical miles in 1977, and saw the uncontrolled growth of harvesting capacity, much of it encouraged by the government's desire to industrialize the fishery. By the mid- to late-1980s, overcapacity, overfishing and sharp conflicts between fleet sectors over resource access defined many of Canada's fisheries. In Atlantic Canada, much of this conflict was between the traditional small-scale sector, known as the inshore fishery, and the highly capitalized corporate offshore and individually owned midshore sectors.

• The second phase of Canada's modern fisheries management, dealing with this overcapacity through the allocation of property rights through individual transferable quota (ITQ) schemes, began in the late 1980s, and has been the State's preferred, almost exclusive, option ever since.

• Descriptions of the Canadian State-sponsored private-property schemes can be found in the proceedings of both the *FishRights99* and the *Sharing the Fish 2006* conferences. They provide textbook examples of the efficiency of property rights and market-based mechanisms in putting a stop to the dissipation of resource rents in individual fisheries thereby generating rents and subsequently allowing the State to recuperate some of these through negotiated

agreements with quota holders, an increasingly important objective of Canada's Department of Fisheries and Oceans (DFO) as it attempts to generate external revenues to compensate for more than a decade of continued budget cuts.

Critics in the small-scale fishery do not challenge the efficiency of classic ITQ systems in dealing with the macroeconomic problems of oversubscribed fisheries. The efficiency of the market is readily acknowledged. It is the externalized costs to fishing communities of the ITQ approach that is in question.

Small minority

From the small-scale/community-fishery perspective, ITQ systems give rights and benefits (including significant economic windfalls) to a small minority of individuals in fishing communities, who are encouraged to dispose of these rights in pursuit of their economic self-interest, irrespective of the impact on the community. Under this system, the benefits of the right go to the individual, while the long-term costs, in terms of employment opportunities, resource access and wider distribution of resource rents, get transferred to the communities and future generations.

In late 2004, the environmental non-governmental organization (NGO), Ecotrust Canada, published a major study on the impacts of resource privatization in Canada's Pacific fishery, documenting, for the first time, its costs from the perspective of community and the small-scale fishery.

According to the study, the capital costs of vessels and equipment in the Pacific fishery shrunk dramatically from Can\$777 mn in the pre-privatization period (the late 1980s) to Can\$286 mn in 2003, as fishing rights concentrated in fewer and fewer hands, and individual quotas eliminated overcapitalization in the race for fish. But the research also found that this decrease was offset by the soaring capital costs of quota and licences, which are now estimated at Can\$1.8 bn.

According to the report, “In the past, the problem was too many fishermen chasing too few fish, but today it has become too much money chasing too few fish. Overcapitalization in licence and quota has become the problem, especially in terms of social equity.”

The costs of licences and quotas are now so high, Ecotrust Canada says, that a fisherman needs to be a millionaire to enter most British Columbia (BC) fisheries, putting ownership of licences and quota out of the reach of most rural families, aboriginal people and younger fishermen.

The study goes on to document how market-led mechanisms undermined the interests of traditional fishing communities by stripping them of fishing licences and quota. With virtually no restrictions on who could buy fishing rights, rural ownership of both quota and licences declined precipitously. Traditional fishing communities—particularly aboriginal communities, which have been hit especially hard—lost 45 per cent of all major licences. The big winners were urban investors—both corporate and individual—who had better access to the capital needed to purchase the quotas and fishing licences that increased rapidly in value as more buyers entered the market.

Limited ability

Rural residents, hobbled by lower incomes, reduced economic opportunities and lower property values that limited their borrowing ability, simply could not match the prices urban dwellers and corporations were willing to pay for licences and quotas that were put up for sale by harvesters in their communities.

Another notable consequence of this transfer of fishing rights from rural to urban hands has been the siphoning off of resource rents from working fishermen to ‘slipper skippers’, absentee resource-rights owners, who do not fish but lease the rights they own back to working fishermen. In separate research, the Canadian Council of Professional Fish

Harvesters (CCPH) has documented how in some BC fisheries, like herring, up to 70 per cent of the landed value in some years is paid to rights holders. Since the rights are leased at prices set prior to the fishing season, this has led to fishermen fishing an entire season at a loss. The practice of leasing is now so widespread that even those captains who own licences and quotas deduct the going market rate for leases from the calculation of crew shares, thereby significantly reducing returns to crew members. According to CCPH, the costs of leasing are also endangering the lives of fishermen as captains cut back on crew levels to reduce costs and also venture out in unsafe conditions because of the need to fish quota they have paid for, before the season ends.

The DFO is now in the process of introducing ITQs for the Pacific salmon fishery, following the recommendations of Professor Peter Pearse, a consultant to the department who was also one of the keynote speakers at the *Sharing the Fish* conference. This will bring the last major Pacific fishery under a property-rights scheme. There is nothing to suggest that safeguards will be established to protect coastal-community interests as that process is launched.

With property rights now firmly established in Canada’s Pacific fishery and the costs of acquiring these rights beyond the reach of most residents of coastal communities, the only way to restore these rights to the communities that originally had them is by entering the rights market. This is what Ecotrust Canada now proposes to do. It hopes to establish a capital fund to acquire fishing licences in the open market, and then lease them to young, new entrants to the fishery from coastal communities at affordable rates. The irony here is that an NGO is having to raise significant amounts of capital to purchase rights in order to restore them to a new generation of rural residents whose predecessors acquired them for nominal costs but were allowed—even encouraged—by government policy, to sell them off to the highest bidder.

...market-led mechanisms undermined the interests of traditional fishing communities by stripping them of fishing licences and quota

Throughout the last 30 years of modern fisheries management, this community-/small-scale approach has been in constant tension and conflict with a corporate view of rights schemes that concentrates access and seeks primarily to maximize the generation of resource rents

In Atlantic Canada, there has been generalized resistance to market-driven privatization by the inshore fishery, generally understood as comprising boats under 45 ft length overall (LOA). There, inshore fishermen's organizations have developed alternative rights-based schemes to control and regulate access to the fishery. These alternatives tend to be value-driven, and are generally concerned with the equitable distribution of resource rents because of the impacts of inequitable distribution on coastal communities. They are also very process-oriented, seeking to build consensus through bottom-up, democratic decisionmaking that builds from the community level towards larger territorial units (region, province, inter-provincial). They have also tended to be ecocentric, seeking to provide small-scale harvesters with rights to the full range of harvestable species adjacent to their communities, using low-impact, fixed-gear techniques, as opposed to limiting these rights to specialist, single-species fleets using higher-impact mobile gear. Throughout the last 30 years of modern fisheries management, this community-/small-scale approach has been in constant tension and conflict with a corporate view of rights schemes that concentrates access and seeks primarily to maximize the generation of resource rents.

Modernization process

There are numerous examples of how the small-scale sector in Atlantic Canada has been successful in devising value-based rules to allocate rights and restrict access to the fishery. Very early on in the modernization process, as the State imposed limited entry to control access to fisheries resources, it made a significant concession to the small-scale sector by prohibiting corporations from holding licences for species fished from vessels of less than 65 ft LOA. This became known as the 'fleet separation policy' as it prohibited fish processors from 'owning' inshore fishing licences, thereby 'separating' processing from harvesting. Individuals who obtained fishing licences in the under-65 ft fleets also had to fish these licences

themselves. They could not (and still can not) lease the licence or hire others to fish for them. This became known as the owner-operator policy.

Individuals were also prohibited from holding more than one licence for the same species but a multispecies-licence portfolio approach was encouraged for the small-scale sector, allowing only those who held certain key licences to obtain licences for other species as these became available either through harvester retirement or the development of new fisheries. The use of value-based criteria such as 'dependency' (level of income derived from fishing) and 'attachment' (length of time in the fishery) were also used first in the Gulf region of the Maritime provinces (New Brunswick, Prince Edward Island and Nova Scotia) under the 'bona fide policy' and, subsequently, in Newfoundland, under the fish harvester professionalization programme, to restrict access to full-time fishermen. In Newfoundland, this led to the denial of access to approximately 15,000 part-time licence holders, cutting the numbers in the small-scale sector in half, a process that generated surprisingly little opposition, largely because of the extensive community-level consultations on the measures.

Nowhere has the contrast been sharper between the value-driven approach for the equitable distribution of fishery rents and the rents concentration model than in the Atlantic's Area 12 snow-crab fishery.

Until the 1980s, snow crab was a marginal fishery in Atlantic Canada. The collapse of the Alaskan king crab fishery and the Japanese appetite for seafood conspired to increase international demand for this product and turn it into one of Canada's most lucrative fisheries. Under limited entry, access rights to Area 12, the most bountiful of the Atlantic's different crab-fishing areas, have been restricted to 130 licence holders, since the 1970s. (They include seven native-owned licences that were transferred to aboriginal communities following a Canadian Supreme Court ruling recognizing their treaty rights to

the fishery.) This fishery is generally recognized as being well-managed. The owner-operator licence holders in this midshore fleet (vessels under 65 ft LOA) moved to individual quota management with strict limits on transferability in the late 1980s, eliminating the race for fish and many wasteful practices. The licence holders fund and manage dockside monitoring, and contribute significantly to funding the government-based scientific stock assessment through co-management agreements. In many ways, the midshore Area 12 crab fishery is a model fishery except in one crucial area: the equitable distribution of resource rents.

The generation and concentration of rents, however, is the fishery’s hallmark. According to costs and earnings estimates for 2002, this fishery generated gross earnings per vessel of more than Can\$750,000, and average net returns of Can\$363,000 for what amounts to a five-to-eight-week fishery. (The net return is the amount generated above the break-even point of Can\$400,000 per vessel. The break-even point includes salary of Can\$50,000 for the captain, and wages of Can\$29,400 for each of the crew, and a return on capital invested of 11 per cent.)

Despite fluctuations in crab prices and total allowable catch (TAC), this pattern of very high profitability has been consistent for the last 15 years. It also contrasts sharply with the very low returns to both labour and capital for the 1,230 inshore-fishery licence holders in some of the same communities along the eastern shore of the province of New Brunswick (NB). These small-scale, multispecies fishermen, who derive most of their income from lobster but also fish other species in a season that lasts six months, generate net incomes per vessel between Can\$3,500 and Can\$5,600, after paying themselves wages between Can\$10,350 and Can\$14,000.

Easily accessible

NB inshore fishermen were excluded from the snow-crab fishery until 1995, despite the

fact that the resource was both plentiful and easily accessible to them using their existing vessels. In communities where unemployment is very high and where job opportunities outside the fishery very limited, this exclusion was a source of resentment, social conflict and general instability in the fishery.

After extensive political lobbying, the Minister of Fisheries reallocated a small percentage of the snow-crab fishery quota to NB inshore fishermen for the first time in 1995. Under the leadership of their organization, the Maritime Fishermen’s Union (MFU), the licence holders chose to exercise this right in a highly creative and democratic way, with a strong emphasis on equitable distribution of benefits.

Given that the allocation was not large enough to make a significant impact on each individual enterprise—had it been divided equally—the licence holders chose to hold and manage the quota collectively, through the MFU, and distribute its benefits in the following way:

- Approximately 60 per cent of the quota was divided into 11,000-lb individual quotas, which were distributed by lottery to partnership groups of four or more fishermen (that is, a partnership of four would receive 44,000 lb) who were leased crab traps purchased by the MFU. It was agreed that any fishermen who received quota through the lottery would not be eligible in subsequent years for another chance at receiving quota until all licence holders had received a 11,000-lb share.
- The remaining quota was fished by charter, and the proceeds were used to:
- finance an extended healthcare plan for all 1,230 licence holders and their families
- support a fish-harvester professionalization programme, finance scallop- and lobster-enhancement projects, and for scientific research on herring stocks.

Except for the years it was excluded from the crab fishery (1998, 1999 and 2000), the MFU continued to manage its allocation of

• snow-crab quota according to the same
• formula.

• **Fleet rationalization**

• However, the long-term decline of lobster
• landings in eastern NB and the deteriorating
• returns to the inshore fleet forced the MFU,
• in 2004, to significantly change its strategy
• and to begin using the crab resource for fleet
• rationalization purposes. It chose an
• approach, however, that was a radical
• departure from traditional practices. Instead
• of using market mechanisms or centrally
• managed licence buyback and retirement
• schemes, it has instead turned the crab
• resource over to fishing communities and
• empowered them to make the decisions on
• how best to use it to bring harvesting capacity
• in their communities in line with resource
• availability and fleet economic viability. The
• approach, if it is successful, will ensure that
• revenues from the inshore crab allocation are
• spent in the best interests of coastal
• communities by allowing these very same
• communities, through democratic, grass-
• roots processes, to make these decisions
• themselves.

• Under the new approach, which was adopted
• in 2005 after extensive community
• consultations, the MFU continues to receive
• an allocation of snow crab on behalf of all
• inshore licence holders in eastern NB. From
• the proceeds of the crab allocation, it also
• continues to fund a health insurance plan,
• which is available to all licence holders and
• their families. But the MFU no longer conducts
• a central lottery for the distribution of
• individual crab quotas. Instead, it distributes
• the crab quota on a pro-rata basis to 12
• Communities of Interests (COI), territorial
• units made up of groups of inshore fishing
• licence holders who share a certain affinity/
• territory (see map). The COIs decide how
• many vessels will harvest their respective
• quotas and how much they will pay to have
• fishermen in their communities fish the crab
• according to harvesting plans determined and
• approved by all licence holders in public
• meetings.

The other significant change is that a mandatory minimum of 50 per cent of net revenues - after paying administration and health-plan costs - must be used for licence-retirement schemes in the communities. However, it is up to the COIs to decide how best to remove excess capacity in the fishery in their communities, according to the funds available to them.

In addition, monies from the crab sales are also set aside in each COI for economic diversification and development funds to finance sustainable-development projects in the communities, again decided upon by the fishermen according to criteria common to all COI. For example, several COIs have already identified the purchase of lobster larvae for seeding in their communities from a project that was initiated by the MFU several years ago.

The COI approach to the allocation of fishing rights is a radical departure from the market-driven, individual-property-rights process experienced elsewhere in Canada. Instead of allocating fishing rights to individuals, who are then free to use them in the pursuit of their self-interest, irrespective of the impact on the community, it creates a situation whereby community interests are placed front and centre. In the words of the MFU, under the COI approach, fishermen have to organize themselves and make decisions collectively on the use of the fishing rights “to tackle both the problems of the fishery and the economic development challenges faced by their communities.” The approach is designed to work in the long-term interests of fishing communities and to make fishermen accountable for the decisions that they make on the use of their rights. The programme is very new and has created all kinds of challenges for the MFU. It remains to be seen how successful it will be. But from the community perspective, it can do no worse than the alternative processes that have already proven to strip communities of access to fishery resources.

Sizing Up

Property Rights and Fisheries Management: a collection of articles from *SAMUDRA Report*

As the world's fisheries continue to come under scrutiny for their potential to be depleted of resources due to various pressures, including overfishing, modern fisheries management has focused on allocation of fishing rights as one prescription for sustainable fisheries management. Solutions based on such a perspective have often pivoted around the gamut of property rights, and how to control the social arrangements that govern the ownership, use and disposal of factors of production and goods and services in the fisheries sector.

Rights-based management in fisheries, as this dossier shows, can take several forms, including licensing, and individual and community fishing quotas. How property-rights regimes address the issue of allocation of ownership will determine their effectiveness in equitably spreading welfare throughout the fishing/coastal community. Only by recognizing fishing rights that are socially sensitive and address the issues of labour, gender and human rights, can fishing communities, especially small-scale, traditional ones, be assured of social justice in the face of moves towards ecological and resource sustainability.

These are some of the issues discussed in this dossier, which is a collection of articles from *SAMUDRA Report*, the triannual publication of the International Collective in Support of Fishworkers (ICSF).

ICSF (www.icsf.net) is an international NGO working on issues that concern fishworkers the world over. It is in status with the Economic and Social Council of the UN and is on ILO's Special List of Non-Governmental International Organizations. It also has Liaison Status with FAO. Registered in Geneva, ICSF has offices in Chennai, India, and Brussels, Belgium. As a global network of community organizers, teachers, technicians, researchers and scientists, ICSF's activities encompass monitoring and research, exchange and training, campaigns and action, as well as communications.

European Commission
Studies and Pilot Projects for Carrying Out the Common Fisheries Policy No
FISH/2007/03

**An analysis of existing Rights Based Management
(RBM) instruments in Member States and on setting
up best practices in the EU**

FINAL REPORT: PART I



Submitted by



February 2009

Disclaimer

This report has been prepared under contract FISH/2007/03 – Lot 4 by MRAG Ltd, IFM, CEFAS, AZTI Tecnalia and PoIEM sp. z o.o.. It does not necessarily reflect the view of the European Commission and in no way anticipates the Commission's future policy in this area.

Citation

MRAG, IFM, CEFAS, AZTI Tecnalia & PoIEM (2009) An analysis of existing Rights Based Management (RBM) instruments in Member States and on setting up best practices in the EU. Final Report. London: MRAG Ltd. 117 pages.

Project no: ZF0996
Issue ref: Final
Date of issue: 24.02.2009
Prepared by: Parkes, G., Walmsley, S.F., Savage, S.,
Cunningham, S., Aranda, M., Sverdrup-
Jensen, S., Cotter, J., Little, A., Macfadyen,
G., Hodgson, S. & Arnason, R.
Checked/Approved by: Parkes, G.

CONTENTS

ACRONYMS	VI
EXECUTIVE SUMMARY	1
1. INTRODUCTION.....	11
1.1. Background to the study.....	11
1.2. Methodology and approach.....	12
1.2.1. Categorisation and naming of RBM systems.....	15
2. OVERVIEW OF RIGHTS BASED MANAGEMENT IN THE EU.....	15
3. ANALYSIS OF CHARACTERISTICS AND EFFECTS OF RBM	19
3.1. Allocation and duration of rights	19
3.1.1. Initial allocation systems.....	19
3.1.2. Provisions for new entrants	24
3.1.3. Validity, cancellation and redistribution of rights	27
3.1.4. Emergence of permanent rights from temporary rights.....	30
3.1.5. Decommissioning schemes.....	31
3.2. Transfer of rights	33
3.2.1. Introduction.....	33
3.2.1.1. Types of transfers.....	33
3.2.1.2. Types of markets.....	35
3.2.2. Existence of markets for rights	35
3.2.3. Management tools and administrative instruments.....	38
3.2.3.1. Administration.....	38
3.2.3.2. Monitoring of fishing right transfers.....	39
3.2.4. Impacts of rights markets.....	40
3.3. Institutional aspects of RBM systems.....	49
3.3.1. Institutions involved in RBM.....	50
3.3.1.1. Government authorities (central, regional and local levels).....	50
3.3.1.2. Private organisations.....	50
3.3.1.3. Co-management organisations.....	52
3.3.2. The roles of institutions.....	54
3.3.2.1. Distribution of rights.....	54
3.3.2.2. Utilisation and trading of rights.....	56
3.3.3. Legal aspects of PO involvement	58
3.3.4. Management costs and cost recovery	59
3.4. Constraints to the development of RBM systems	61
3.4.1. Policy and management constraints.....	61
3.4.2. Legal constraints	62
3.4.3. Legal challenges to the introduction of RBM.....	63
4. IDENTIFICATION OF BEST PRACTICES AT THE EU LEVEL.....	66
4.1. Introduction.....	66
4.2. Investigating outcomes across RBM systems.....	68
4.2.1. Characterising and comparing the quality of rights in RBM systems	68
4.2.2. Relationships between quality of rights and measures of success	75
4.3. Case studies of RBM in the EU.....	78
4.3.1. Introduction.....	78
4.3.2. Selection of case studies.....	79
4.3.3. Case study boxes.....	80
4.4. Lessons Learned from RBM in the EU.....	96
4.5. Conclusions and further research	99
4.5.1. Assessing best practice.....	99
4.5.2. General conclusions.....	99
4.5.3. Suggested areas of further research	102

5. REFERENCES.....	104
ANNEX 1. TERMS OF REFERENCE.....	109
ANNEX 2. SUMMARY OF INSTITUTIONAL ROLES IN RBM SYSTEMS	113
ANNEX 3. MEASURING THE QUALITY OF RIGHTS.	117
ANNEX 4. Q-VALUE PLOTS BY RBM SYSTEM	120

**PART II: CATALOGUE OF RIGHTS-BASED MANAGEMENT INSTRUMENTS
IN COASTAL EU MEMBER STATES (See separate volume)**

List of Boxes in the Report

Box 1: Change from a rolling reference period to a fixed reference period for quota allocation in the UK	20
Box 2: Examples of auctions for fishing rights in Europe	22
Box 3: Exclusion of prior resource users in the Galician shellfish TURFs	23
Box 4: Examples of requirements and schemes for new entrants in RBM systems	25
Box 5: Targeted reallocation of licences in the small-scale fishery in Cyprus to favour a certain category of new entrants	26
Box 6: Redistribution scheme of limited licences for conservation purposes in Italy ...	27
Box 7: Validity and redistribution scheme in TURF-like system in Malta	29
Box 8: Comparison of validity of rights in IQ and ITQ systems in Belgium and the Netherlands	29
Box 9: OECD draft principles and guidelines for decommissioning schemes.....	31
Box 10: Decommissioning schemes in the Baltic and their treatment of fishing rights.....	32
Box 11: Quota monitoring in France	38
Box 12: Administration systems to register quota trades in the UK	39
Box 13: Administration systems to register quota trades in Estonia	40
Box 14: Impacts of the market for rights in Spain	45
Box 15: Impacts of the market for rights in Denmark	46
Box 16: Potential impacts of the market for rights in the UK.....	47
Box 17: The impacts of transfer quotas under the EU Fisheries Partnership Agreements with Norway, Faroe Islands and Iceland, and under the Norway–Sweden agreement	49
Box 18: Quota swaps in Poland’s offshore fleet.....	48
Box 19: POs and management of IQs in Italy	51
Box 20: Role of POs in quota management in Spanish demersal fisheries in Grand Sole	51
Box 21: Swedish experiments in co-management.....	53
Box 22: Institutions and Spanish TURF shellfish fisheries in Galicia	53
Box 23: Role of POs in quota distribution in France	55
Box 24: POs in the UK and the ITQ-like approach.....	56
Box 25: The Biesheuvel groups in the Netherlands	57
Box 26: Producer Organisations’ measures for minimising discards in France	59
Box 27: Human rights and ITQs — the Iceland case	65
Box 28: Description of RBM Systems in Table 7	71
Box 29: Spanish NEAFC ‘300’ fleet (ITQ)	80
Box 30: UK whitefish	82
Box 31: Transferable quota systems in Danish fisheries	83
Box 32: North Sea beam trawl: Netherlands ITQs and Belgium CQs.....	85
Box 33: Gulf of Lions trawler fleet: Limited licensing in the French Mediterranean	87
Box 34: Resource rent generation in Nordic Fisheries under various RBM systems...	89
Box 35: Limited Entry Licences for Danish blue mussel	90
Box 36: Community Quota for Portuguese sardine.....	91
Box 37: Clam consortia and self-management in Italy (TURF)	93
Box 38: Comparison of IQs in Poland and ITQs in Estonia	94

Acronyms

AC	Autonomous Community
ANASOL	Asociación Nacional de Armadores de Pesca en El Gran Sol
ANOP	National Association of POs (France)
BFT	Bluefin Tuna
BIM	Irish Sea Fisheries Board, Bord Iascaigh Mhara (Ireland)
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CECAF	Committee for the Eastern Central Atlantic Fisheries
CEFAS	Centre for Environment, Fisheries and Aquatic Science
CFP	Common Fisheries Policy
CNPMEM	Comité national des pêches maritimes et des élevages marins (France)
COPEMED	Mediterranean Fish Cooperation; FAO
CQ	Community Catch Quota
CRPMEM	Comité régional des pêches maritimes et des élevages marins (France)
DAFF	Department of Agriculture, Food and Fisheries (Ireland)
DARDNI	Department of Agriculture and Rural Development for Northern Ireland
DCAL	Department of Culture, Arts and Leisure (UK)
DCMNR	Department of Communications, Marine and Natural Resources (Ireland)
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DF	Department of Fisheries (Poland)
DFMR	Department of Fisheries and Marine Research (Cyprus)
DG-FISH	Directorate-General Fisheries
DG-MARE	Directorate-General Maritime Affairs
DPPO	Danish Pelagic Producer Organisation (Denmark)
EA	Environment Agency (UK)
EAEF	Economic Assessment of European Fisheries
EEZ	Exclusive Economic Zone
EFF	European Fisheries Fund
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organisation of the United Nations
FCB	Fish Commodity Board (Netherlands)
FCCD	Fishery Conservation and Control Division (Malta)
FEDOPA	Federation of Artisanal Producer Organisations (France)
FMC	Fishery Monitoring Centre (Poland)
FMS	Fisheries Management System
FMZ	Fisheries Management Zone
FQA	Fixed Quota Allocation Unit
FROM	Organisation de producteurs Fonds régional d'organisation du marché du poisson de Bretagne (France)
FROM Nord	Organisation de producteurs Fonds régional d'organisation du marché du poisson du Nord (France)
GDFA	General Directorate of Fisheries and Aquaculture (Italy)
GDP	Gross Domestic Product
GFCM	General Fisheries Commission for the Mediterranean
GLS	General Licensing Scheme
GRT	Gross Registered Tonnage
GT	Gross Tonnage

GVA	Gross Value Added
HP	Horsepower
IBSFC	International Baltic Sea Fishery Commission
ICCAT	International Commission for the Conservation of Atlantic Tuna
ICES	International Council for the Exploration of the Seas
IE	Individual Effort
IFCA	Inshore Fisheries and Conservation Authorities (UK)
IFM	Innovative Fisheries Management
ILVO	Institute for Agricultural and Fisheries Research (Belgium)
IQ	Individual non-transferable Quota
ITE	Tradable Effort Quota
ITQ	Individual Transferable Quota
kW	KiloWatts
LL	Limited Licensing
LNV	Ministerie van Landbouw, Natuurbeheer en Voedselkwaliteit (Netherlands)
LOA	Length Overall
LS	Licensing Scheme
LTL	Limited Transferable Licensing
MAGP	Multi-Annual Guidance Programme
MAPyA	Ministerio de Agricultura y Pesca (Spain)
MARD	Ministry of Agriculture and Rural Development (Poland)
MARDF	Ministry of Agriculture, Rural Development and Fisheries (Portugal)
MARM	Ministry of Environment and Rural and Marine Environment (Spain)
MCFS	Malta Centre for Fisheries Sciences
MedFISIS	FAO sub-regional projects under COPEMED
MedSudMed	FAO sub-regional projects under COPEMED
MFA	Marine and Fisheries Agency (England and Wales)
MFL	Marine Fishery Segment (Netherlands)
MLS	Minimum Landing Size
MPA	Marine Protected Area
MS	Member State (EU)
MSC	Marine Stewardship Council
NAFO	North Atlantic Fisheries Organisation
NASCO	North Atlantic Salmon Conservation Organisation (UK)
NDMF	National Directorate of Marine Fisheries (Spain)
NEAFC	North East Atlantic Fisheries Commission
NFB	National Board of Fisheries (Latvia)
NMC	National Management Committee (Italy)
NUFTA	New Under Ten Fishermen's Association
OECD	Organisation for Economic Co-operation and Development
PAOP	North Atlantic Producers Organisation
PERMEX	Shellfish extraction permit (Spain)
PMA	Pêcheurs de la Manche et de l'Atlantique (France)
PME	Permis de mise en exploitation
PO	Producer Organisation
PolEM	Polish Environmental Management
QMCP	Quota Management Change Program
RAC	Regional Advisory Council
RBM	Rights Based Management
RFMI	Regional Marine Fishery Inspectorate (Poland)
RL	Registered Length
RSW	Refrigerated Seawater vessel
SBF	Swedish Board of Fisheries (Sweden)
SFC	Sea Fisheries Committee (UK)

SFI	Sea Fisheries Institute in Gdynia (Poland)
SFP	Special Fishing Permit
TAC	Total Allowable Catches
TURF	Territorial Use Rights in Fisheries
UN	United Nations
UQPA	Unclassified Quota for Possible Allocation
UQPC	Quotas reserved for Possible Compensation
VC	Vessel Catch Limits
VMS	Vessel Monitoring System
VTQ	Vessel Transferable Quota
WAG	Welsh Assembly Government (UK)

Executive Summary

This report presents a review and analysis of the rights-based management (RBM) systems in place in EU coastal Member States, performed under contract FISH/2007/03. Rights-based approaches to fisheries management have shown potential for promoting biologically sustainable and economically viable fisheries in several parts of the world. Whilst fisheries management is a Community responsibility, under the framework of the reformed EU common fisheries policy (CFP), economic management of fishing rights is a national responsibility and in practice, many Member States have already implemented RBM approaches in a range of fisheries across the EU. This study satisfies the need, identified by the Commission, for a review of these existing RBM practices. It analyses the attributes and effects of RBM systems and investigates their degree of success in contributing to achievement of the CFP objectives of sustainability of exploitation of stocks, matching fleet size with available fish resources, and economic viability of the fishing industry.

The accompanying Catalogue of RBM instruments in coastal EU Member States (Part II of this report) describes the features of the main RBM systems in place in each Member State and scores them against four attributes: Exclusivity, Validity, Security and Transferability. Also described are drivers for the establishment of RBM, the evolution of the systems and how the systems address or affect a number of issues: concentration of fishing rights; protection of small-scale fisheries; access of newcomers; access of nationals of other Member States; and potential effects on discards.

The definition of RBM adopted for this study is broad, including 'any system of allocating fishing rights to fishermen, fishing vessels, enterprises, cooperatives or fishing communities'. As such, the main types of RBM systems covered are: limited non-transferable licensing (LL); limited transferable licensing (LTL); community catch quotas (CQ); individual non-transferable effort quotas (IE); individual transferable effort quotas (ITE); individual non-transferable catch quotas (IQ); vessel catch limits (VC); individual transferable quotas (ITQ) and territorial use rights in fisheries (TURF).

RBM systems in place in EU coastal Member States cover a wide range of fleet and fishery types. All Member States have implemented some type of RBM, although Slovenia has not yet closed its licensing regime. Limited licensing is a common means of restricting access to a fishery and the majority of Member States use this either as a main, or supporting means of managing one or more fisheries. In stocks managed by TAC, Member States have implemented a variety of IQ, ITQ and VC systems. In most cases, the extent of transferability officially enshrined in the system reflects national policy and concerns about the potential for rights to be captured by large and/or foreign interests. Quota-based systems are almost non-existent in the Mediterranean (bluefin tuna being the exception), where management is based on licensing and effort-based controls. TURFs have been established across the EU, mainly for inshore and sedentary stocks. Effort-based systems (IE and ITE) are also used, predominantly in the Baltic states, or in support of quota systems in North Sea fisheries.

A balance of social, economic and market factors is taken into account in the allocation of fishing rights, depending on national policy priorities. Initial allocations for quota-based systems are usually based on historical track record, mostly using a

fixed reference period. Most Member States that initially used a rolling reference period have switched to a fixed reference period because of unreliable catch records and the use of strategic fishing behaviour to attempt to increase quota allocation. Auctions as a way of allocating rights have been rarely used in Europe, and are no longer used in any Member State.

Once rights have been allocated, it can become difficult for new entries to the fishery. In most cases, if newcomers wish to enter a fishery controlled by an effort- or quota-based system, they must buy a vessel with its associated rights (licence, quota allocation etc). However, this can be prohibitively expensive and several countries (e.g. UK, Denmark) have specific schemes to facilitate new entrants to the fishery, either by starting in the small-scale sector, or by leasing quota. The most difficult type of system for newcomers to gain access to seems to be TURFs, where rights are allocated to a group of resource users. Their establishment has often resulted in the exclusion of prior users of the resource (through the conversion from an open access to a privatised regime) and subsequently it can be difficult for newcomers to gain membership of the association or group involved in the TURF.

Rights have varying validity. TURFs tend to have the longest period of validity (often in perpetuity). In some cases, validity of the right can be short (e.g. one year), but rights are renewable, effectively making the validity period much longer. In some cases, RBM systems have evolved over time, without the nature or duration of the right being specifically defined. Furthermore, a number of different 'rights' may be required to be able to fish (e.g. a licence, quota allocation and days at sea), in which case, the right with the shortest validity determines the overall validity of the bundle.

Markets have evolved around the sale, transfer and lease of rights, even in the case of 'non-transferable' rights, since vessels with rights can typically be sold together with those rights — vessels with attached licences are often sold for more than the pure asset value of the vessel itself (implying a value to the licence, or fishing right). Markets exist for individual non-transferable catch quotas (IQ) and individual non-transferable effort quotas (IE), because it is possible to buy companies that have quota and/or to sell or rent vessels with unused quota.

Transferability can and has resulted in a concentration of fishing rights in some cases (e.g. Spain, Denmark). This also implies a reduction in capacity and associated increase in economic efficiency. Restrictions on transferability by a number of Member States have been implemented specifically with the aim of avoiding the concentration of rights and protecting small-scale fisheries. However, even in non-transferable systems, a concentration of rights can occur through the purchase of fishing enterprises/companies, in the absence of other measures to restrict concentration of rights or ownership; and conversely, systems with transferability do not necessarily result in a concentration of rights. Some transferable rights systems also restrict concentration by establishing limits on ownership.

Capacity reductions can, and have, also been achieved through publically-funded decommissioning schemes. The way in which rights have been treated in decommissioning schemes varies — in some cases the rights (licence and quota) may be decommissioned with the vessel, in other cases, the quota may be transferred to another vessel. Whether or not the quota is decommissioned, it is important to ensure that decommissioning follows OECD guidelines and that the capacity cannot re-enter the fishery, or another fishery. However, decommissioning schemes are expensive and capacity reductions have been achieved through market measures (i.e. transferability of rights) at minimal cost, such as in Denmark, freeing up resources to be invested in research and innovation for the sector.

Protection of small-scale fisheries is a concern for a number of Member States, and has been addressed in a number of ways: by limiting transferability; by the establishment of TURFs; and by reserving a proportion of national quota for the small-scale segment.

Transferability of rights has resulted in the rationalisation and improved economic profitability of fleets in a number of cases where it has been implemented. Particular examples include Denmark's pelagic fishery and Spain's 300 fleet. The impact of markets for rights on social issues (social sustainability in coastal fishing communities) is not clear. However, markets for rights have resulted in the value of rights significantly rising in many cases. This can have negative implications for future potential participants in the fishery, due to the high entry costs. But in many cases, the social impacts of markets are likely to be limited due to factors constraining the free transferability of rights, even in the case of ITQs, specifically with the intention to protect historical distribution patterns.

The principle of relative stability is not threatened by transferability *per se*, because quotas to each Member State for particular species are allocated based on a set percentage of the TAC each year. However, markets for rights do have the potential to impact on the *principle* of relative stability, in terms of a constant share of benefits between Member States if market transactions for rights are not 'fair', which would result in an asymmetrical generation of benefits (for example if one rights' holder, Producer Organisation (PO) or fisheries authority pays over the market price for a species because of the need to obtain quota for that species, or just through poor quota management on the part of the institutions involved). Furthermore, there are already cases of beneficially-owned foreign vessels fishing under national quota, which do not rely on transferability of rights, but rather on the purchase of vessels with rights under the European free market.

Potential effects of RBM systems on discards are difficult to determine, as discards may be influenced by a range of factors, including undersized or unmarketable fish, highgrading and lack of quota allocation. Where discarding occurs due to a lack of quota for a particular species, transferability of quota rights enables vessels and POs to optimise the species mix to reduce discards. However, even with non-transferable rights, this optimisation can be carried out at national level through Member State-to-Member State quota swaps to ensure an appropriate species mix, although this requires more input (time and resources) from the central authorities, rather than allowing the market to act.

In most cases, the role of Member States in markets is principally in overseeing them and recording changes in ownership and/or the use of rights. Most of the markets are 'formal' (controlled or monitored by the state) even in the case of non-transferable rights; the only informal markets that appear to exist in the systems studied are those associated with the markets for rights within clam consortia (TURFs) in Italy, and cases where POs manage quota on behalf of their members. There are various administrative mechanisms used to document the RBM systems and keep records on swaps, leases or trades or fishing rights, ranging from paper-based systems to electronic databases, and at different administrative levels — central government, regional government and POs.

A range of institutions are involved in the implementation of RBM systems at various different levels, including line Ministries, central, regional and local government and private organisations such as associations and POs. The roles that POs have taken on in relation to distribution and utilisation of the fishing rights of their members vary

from country to country and from PO to PO, from the management of minimum price schemes, to being involved in the distribution of fishing rights and the management of fishing activities.

Constraints to RBM implementation and development include management constraints (e.g. the management regime does not lend itself to RBM-type approaches, or restrictions are not currently required), policy constraints (e.g. the 'quality' of rights bestowed may be restricted due to limits on transferability because of policy goals and social objectives), legal constraints (e.g. primary legislation of Member States must be flexible enough to respond to conservation and management measures adopted at Community level), and costs of implementation.

The success of RBM systems against CFP objectives (sustainable exploitation of stocks and economic performance) was explored, firstly on the basis of empirical relationships and secondly on the basis of indicative practice from a series of examples. In terms of the analysis of relationships, informative results were not forthcoming for a number of reasons: individual stocks can be exploited by fleets managed under different RBM systems; a single RBM system can be applied to a variety of fleets and target stocks; and available data on stock status and fleet economic performance do not correspond to RBM systems. The relationships are further confounded by factors such as: the adjustment period required for a stock to respond after the implementation of a new management system, a critical component in the observed relationship between RBM regimes and the health of the stock; neighbourhood effects (management systems of other countries exploiting the same stock); and enforcement effectiveness.

Determining best practice across such a wide range of fleets and stocks is no simple task. The range of species, fisheries, fleets, communities and administrations is too diverse to be able to identify best practice that would apply to all situations. More data could be collected to investigate patterns in cause and effect, but at present, the most productive line of research has been to study specific cases with the aim of deriving lessons learned that are likely to be applicable elsewhere.

A pattern is apparent among quota managed fisheries (Figure 1). In cases where catches do not exceed the overall quota, a common quota pool may be sufficient, however, as competition for quota is increased, so quota allocations and ITQs become the management tools of choice. However, while there are benefits in moving towards management systems that provide higher quality rights for participants, the approach is not an automatic panacea for ailing fisheries. RBM systems such as ITQs and TURFs will not necessarily provide the best outcome for all fisheries. It is better to think in terms of developing RBM systems through a process of evolution, supported by additional measures both to encourage desirable outcomes, such as reduction in over-capacity, and to mitigate undesirable outcomes such as concentration and/or marginalisation of small scale operators.

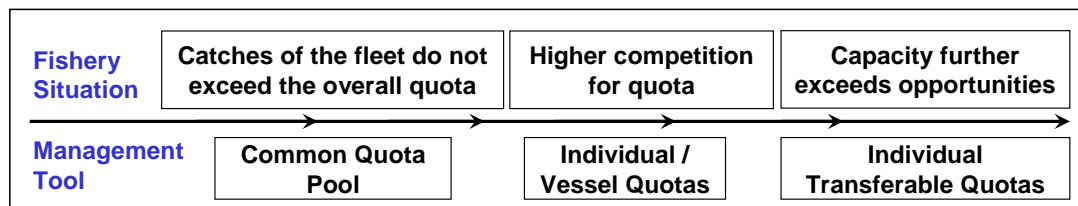


Figure 1 Pattern in quota managed fisheries

A vital factor in reaping the benefits of RBM is an industry that demonstrates a responsibility for stewardship of the resource. This was an important element in the success with ITQs shown in the Danish pelagic fishery. In this example, capacity reduction has been achieved without the need to allocate public money, good stewardship has been promoted from within the local producer organisation and fisheries remain profitable. By contrast, in the Netherlands case ITQs performed very poorly in the 1970s and '80s because of an initial failure to effectively limit fishing capacity and monitor catches. More recently, the system has improved significantly through the establishment of co-management-type framework that has increased both responsibility and compliance (van Hoof, 2008), but the beam trawl fleet is still operating at an economic loss, largely due to high operating costs.

Three of the four attributes used to characterise RBM systems, namely exclusivity, security and validity are essential; if any one of these is reduced to zero, the right becomes essentially worthless. However, while transferability can have multiple benefits, it is not essential and Member States show different approaches to its implementation. Some element of constraint on transferability is common, but markets in rights develop naturally where the rights have a clear value.

A number of Member States have purposely restricted transferability of rights with the aim of protecting national fishing interests, small-scale fishers and fishing-dependent communities. Even in systems where transferability is significant (e.g. VTQ and ITQ systems) there are often systems in place to ensure the protection of small-scale fishers and to ensure the possibility of new entrants to the fishery, such as allocating a proportion of national quota to the small-scale sector, and reserving a part of the quota for new entrants in order to build up a track record.

In the case of quota-managed fisheries, of concern at the Community level is the possible impact of quota trading on the capability to monitor and retain control over quota ownership and uptake. Current case law indicates that Member States can limit quota entitlement to entities with an economic link to the Member State, although such rules must be non-discriminatory. Such arrangements could be extended to a more regional model. In this regard it is also worth considering the distinction between quota ownership and use rights. Essentially the Member State could retain the ownership of the quota that is allocated to it by the EC, maintaining relative stability, while the right to use a portion of that quota allocation is what is sold, leased, or otherwise transferred between participants in the fishery. A more restrictive approach would be to allow only in-year quota allocations (not the use rights themselves) to be traded between participants. No matter to whom the quota is transferred, the Member State owner needs to be in a position to continue to meet its obligations under the CFP in terms of compliance with its quota limits.

There is a clear question regarding the Commission's role with respect to development of rights-based management in the EU, particularly in the context of the reform of the CFP. As stated at the outset, the economic management of fisheries is a matter for Member States. Nevertheless, there are initiatives that could be taken to both encourage and smooth the path towards better-performing fisheries and sustainable stock management. One of the significant issues that appears to undermine the realisation of benefits of RBM in EU fisheries is the erosion of exclusivity that occurs with the application of different management regimes to fleets targeting shared stocks. This is not something that impacts the use of RBM for fisheries in EEZs that are under the exclusive control of national governments outside the EU where benefits have been described. To mitigate this, the Commission could possibly take on a coordinating role that would lead to better alignment of management systems on a regional basis. At a minimum a set of

guidelines and/or minimum standards for RBM could be developed on the basis of the lessons learned presented in this report. While management systems are complex constructs and need to evolve to meet the specific local needs, there are certainly potential pitfalls that the Commission could help Member States to avoid by identifying what has not worked well in the past.

Based on the overall study, the following general conclusions with respect to developing best practice in RBM systems emerge:

- **Local conditions:** RBM systems need to be tailored to local circumstances and objectives.
- **Scientific requirements:** A sound scientific basis for establishing exploitation limits is important for any management system. For quantitative RBM systems this requirement may be even greater. For example, management through ITQs requires accurate real-time specification of TACs, adjusted annually in response to stock fluctuations.
- **Cost-benefit assessment:** Sophisticated RBM systems can be costly to implement and maintain. Such systems may be economically warranted only for large, valuable resource stocks.
- **Economic performance:** Previous research has shown resource rent generation is highest in those systems that have the highest quality rights. Systems with weak rights showed negative or low resource rents and could not cover the management cost. These findings showed a clear link between the management regime and the opportunity for profitable fisheries.
- **Avoidance of overcapacity:** The OECD recommends that fisheries management systems are designed to prevent overcapacity and overfishing from occurring, and that there should be appropriate incentives for fishers to automatically adjust fishing capacity and effort, so as to avoid the use of expensive decommissioning schemes where possible. RBM systems that do not lead to a natural reduction in excess fishing capacity should be augmented by active decommissioning schemes to promote an improved balance between fishing capacity and fishing opportunities. Schemes should not allow capacity once removed to return to the fishery and preferably should not require the use of public funds.
- **Precautionary management:** Fishery resources typically suffer from high unpredictability, which can lead to overfishing or collapse unless specifically allowed for. The fishing industry is also impacted by numerous factors which are outside of the control of any management agency or authority, for example, oil price or world currency markets. Even well-managed fisheries may suffer shocks from external factors, which can affect their economic performance.
- **Enforcement:** Rights require enforcement, because of the potential impacts of illegal activities. Without effective enforcement, exclusivity and security have little meaning.
- **Transferability:** Enhanced transferability of rights and improved flexibility in rights management may produce a reduction of redundant capacity and enhancement of efficiency. Nevertheless, even when a right is not officially transferable, if the right is valuable, stakeholders will find some element of the

system through which this value can be expressed. In IQ systems, where there is a specific concern to restrict transferability, similar outcomes to those of ITQ systems (reduction in capacity, reduction in the race to fish, and obtaining an appropriate mix of quota) can be achieved by other nationally-implemented measures, such as decommissioning schemes and national quota swaps. This requires more input (time and resources) from the central authorities, rather than allowing the market to act. A number of Member States have purposely restricted transferability of rights with the aim of protecting national fishing interests, small-scale fishers and fishing-dependent communities. Even in systems where transferability is significant (e.g. VTQ and ITQ systems) there are often systems in place to ensure the protection of small-scale fishers and to ensure the possibility of new entrants to the fishery, such as allocating a proportion of national quota to the small-scale sector, and reserving a part of the quota for new entrants in order to build up a track record.

- **Co-management and fisher responsibility:** Effective implementation will not be realised without the cooperation of fishermen in terms of design, implementation, and compliance. The industry needs to be empowered to take on responsibility for stewardship of the resource to ensure a sustainably future for fisheries. The use of POs not only as platforms for quota management but also as platforms to develop technical measures may enhance resource sustainability. PO management of markets for rights, when based on sufficient/necessary provision of information to Member states (e.g. quota uptake), can increase the ability of fishermen to adapt fishing strategies resulting in economic and social benefits.
- **Government intervention:** Even in market-based ITQ systems, national authorities should establish the parameters and limits within which the system should work, and may wish to maintain the possibility for intervention should it be seen to not be functioning as expected. While longer-term rights are generally regarded to be higher quality, it may be prudent to include a sunset clause to enable such intervention if necessary. An RBM system may be seen as a 'resource give-away', unless accompanied by a system of fair user fees. Mechanisms for cost recovery should be given due consideration at an early stage, as it is much harder to implement later in the process.
- **Markets for rights:** The existence and functioning of markets in the EU, is bringing about considerable benefits in terms of resulting efficiencies and fleet reductions, in line with CFP objectives. However, Member States should be free to continue to impose limitations on the functioning of markets to protect vulnerable/ dependent fishing communities. Stakeholders must be fully involved in decisions taken by Member States as to the establishment and development of markets for rights. With increasing value of fishing rights resulting from the development and functioning of markets, special provisions may be required to assist new entrants to the fishery because of increasingly high entry costs. It need not be necessary for State administrations to retain complete control over the monitoring of transfer markets.
- **CFP objectives:** The principal driver for many of the more sophisticated quota-based RBM systems in the EU has been Commission regulations establishing TACs and quotas for a number of species, and requirements to limit fishing capacity. RBM systems are usually not sufficient in themselves to meet the objectives of the CFP. This requires a range of fisheries management measures at different levels that may constitute a 'bundle' of rights. Likewise, implementation of ITQs does not necessarily lead to improved economic

performance of the fleet and/or better matching of fleet capacity with fishing opportunities. Coherent policies in other sectors (e.g. economic development) are needed to avoid the undermining of RBM approaches.

- **National objectives:** These may impose constraints on the development of RBM, but do not necessarily undermine the meeting of CFP objectives. RBM systems need to be tailored to local circumstances and objectives. In this regard, moving towards IQ and ITQ management systems is necessarily an iterative process that takes a substantial period of time, and should allow opportunities for stakeholder input and revision or modification of the system as it evolves.
- **Small scale fisheries:** Schemes for small-scale fisheries, such as a separate quota allocation, and/or prevention of consolidation can be implemented alongside ITQ systems and result in their protection and continued participation in the fishery.

This study has collected information on the existing RBM systems in coastal EU Member States. However a number of data gaps have been identified that have hindered the analysis of effects of RBM systems in the context of EU fisheries. A number of areas of further research and investigation therefore arise.

The available indicators of stock status and economic performance did not line up well with the RBM systems studied, therefore it was difficult to identify correlations and draw conclusions on the effectiveness of RBM systems in contributing to the achievement of CFP objectives. Further research to investigate economic fleet performance in more detail would be of benefit, based on RBM units (i.e. fleets targeting particular stocks under the same RBM system). This would help improve understanding of the effects of particular RBM types on economic outcomes.

Nevertheless, the lack of clear patterns showing benefits should not be a reason for not moving forward with RBM. Further detailed studies on the application of RBM to European fisheries would be useful. In particular, more in-depth studies with a regional focus looking at particular fisheries (e.g. mixed fisheries in the North Sea, inshore fisheries in the Mediterranean) would be useful to draw out specific recommendations for the particular fisheries and the Member States involved.

With regard to legal aspects of RBM systems, it would be useful to compare the legal framework for European RBM approaches in the case of fisheries that are subject to management under the CFP using IQs and ITQs and which are regulated on a number of different levels (EC, national law and regulations), with other developed countries which have introduced RBM on the basis of primary legislation that clearly enshrines the legal rights so created.

In relation to markets for fishing rights, there are a number of topics that could be further investigated:

- The evolution of market for rights in Member States, as opposed to the evolution of RBM systems themselves;
- The extent to which tradable rights are actually being traded and transferred on the market; and
- The value of rights, including, what is the current value of different types of rights in existing markets at the present time, and how have these values changed?

The need for scientific data regarding stock status and behaviour is not removed by the implementation of rights-based management, and in some cases it becomes even more important. Other developments in fisheries science and management, such as the ecosystem approach to fisheries management (EAFM) requires even wider knowledge of the ecosystem than just the abundance and productivity of target stocks, or the comparative effort of each fishery. However, linking of the various ecological-state and fishing-pressure indicators used under the EAFM to tradable rights appears to be a new and relatively open field of enquiry.

1. Introduction

1.1. Background to the study

Rights-based approaches to fisheries management have shown potential for promoting biologically sustainable and economically viable fisheries in several parts of the world. While assessment of the benefits remains controversial, the use of one of the most often cited examples, Individual Transferable Quotas (ITQs), is clearly increasing. Chu (2008) has reported on the growth since 1975 in the number of countries using ITQs and the number of species they cover. By 2005, they were used in at least eighteen countries to manage several hundred stocks of more than 200 species. In 2004, the US ended an 8 year moratorium on ITQs following the recommendation by the National Research Council (NRC 1999). Economic theory is often used to demonstrate the virtues of allocating high quality rights in fisheries (e.g. expressed as high levels of exclusivity, security, longevity and transferability) to avoid the situation where overcapacity produces economic hardship and erodes management capacity. Analysis of performance in practice, however, demonstrates that successful management also requires a competent management authority able to set and enforce regulations and monitor the status of stocks. (Beddington *et al.* 2007).

Under the framework of the reformed EU common fisheries policy (CFP), economic management of fishing rights remains an exclusively national responsibility. Due to the CFP principle of 'relative stability' which is intended to ensure a predictable share of the stocks for each Member State, there is currently no possibility of rights-based management (RBM) systems at the Community level. However, individual Member States can and do implement RBM systems at a national level. The methods of allocating, sharing or transferring fishing opportunities between vessels at national level affects the economic situation of the fleet as a whole (COM(2006) 103 final).

In some instances, there may be benefits from greater coherence, standardisation and harmonisation across Member States. It should be noted that each Member State is still free to set its own objectives for fisheries management in terms of the economic, social and cultural dimensions. In practice there may be certain obstacles for some Member States in adopting particular RBM systems, where the concept of allocating private rights to what is still, in some cases, considered an open access public resource, can cause difficulties.

The aim of the review therefore, is to explore the systems currently being used at Member States level, their advantages and limitations, and the possibility of improving their efficiency by sharing best-practice across the Member States. The Terms of Reference are provided in Annex 1. The TORs state that 'RBM includes any system of allocating fishing rights to fishermen, fishing vessels, enterprises, cooperatives or fishing communities'. In addition to regarding RBM as ways of allocating rights, it also encompasses management based on rights. We have therefore interpreted this passage from the TORs as specifying RBM as management based on any fishing rights allocated to fishermen, fishing vessels and so on. This interpretation was reinforced during subsequent planning meetings with the European Commission.

This study provides information on the range of RBM instruments already in use in the coastal Member States. It analyses their characteristics, effects and seeks to

evaluate their degree of success in contributing to achievement of the CFP objectives of: sustainability of exploitation of stocks, matching fleet size with available fish resources, and economic viability of the fishing industry. RBM systems have been introduced within the Member States for a range of different reasons. Some of these systems, such as TURFs and community based-management systems, are very old indeed and represent a combination of pragmatism (in the case of sedentary species) and traditional notions of fisheries management. On the other hand IQs and ITQs have often been introduced as a pragmatic means of allocating national quota entitlements under the CFP. Indeed in some countries the process of transformation to from IQs into ITQs has been gradual, almost an organic development as holders themselves have sought to determine the full potential of their rights. All RBM approaches promote greater legal certainty. Beyond that, a number of more specific benefits are claimed for RBM approaches. In general terms the more the rights so created resemble property rights the greater benefits are claimed. More specifically, such rights create incentives for socially responsible behaviour. The sense of 'ownership' created by rights in fisheries, the ability to put a monetary value on such rights and even to transfer them, create a body of rights holders with a genuine 'stake' in the system much in the same way that rights to land and water create a stable and secure basis for investment in those resources. Investments can be made over a longer time frame with greater certainty due to security conferred by such rights (and indeed in cases where rights can be used as collateral they themselves provide the means for investments). At the same time, securing compliance is facilitated by reason of the fact that each right holder has a personal incentive in the integrity of the system that confers value on his or her rights. In economic theory only a tax or royalty based system can offer equal benefits and for a range of practical and political reasons such systems have yet to be deployed.

This final report is accompanied by a standalone Catalogue of Rights-Based Management Instruments in coastal EU Member States ('the EU RBM Catalogue'), prepared during Phase 1 of the project and attached to this report as Part II.

This study satisfies the need, identified by the Commission, for a review of existing RBM practices in the EU.

1.2. Methodology and approach

The study was carried out by a consortium with expertise in fisheries across the 20 EU coastal Member States. The consortium was composed of a combination of in-house specialists from MRAG Ltd and our partners: Innovative Fisheries Management (IFM), Denmark; Centre for Environment, Fisheries and Aquaculture Science (CEFAS), UK; AZTI Tecnalia, Spain; and Polish Environmental Management (PoIEM), Poland. The Consortium was also supported by specialists from IDDRA (RBM systems in France, Belgium, Netherlands, Greece and Cyprus, and administration and monitoring of markets for fishing rights), and Poseidon (analysis of existence and impacts of markets of fishing rights)¹.

The scope of the study focused primarily on RBM systems in EU waters managed under the CFP. RBM systems that apply to other waters were also included where interesting examples arose. These included inshore/territorial waters, inland waters, and high seas areas such as the regulatory areas of the North East Atlantic Fisheries Commission (NEAFC) and the North Atlantic Fisheries Organisation (NAFO).

¹ The Consortium was also supported by Dr Ragnar Arnason (economic theory of RBM) and Stephen Hodgson (legal aspects of RBM). An expert panel comprising Gordon Munro, Colin Clark and Gary Libecap provided advice with respect to assessment of success and best practice.

The definition of RBM adopted for this study is broad, including 'any system of allocating fishing rights to fishermen, fishing vessels, enterprises, cooperatives or fishing communities'. As such, the main types of RBM systems covered are: limited non-transferable licensing (LL); limited transferable licensing (LTL); community catch quotas (CQ); individual non-transferable effort quotas (IE); individual transferable effort quotas (ITE); individual non-transferable catch quotas (IQ); vessel catch limits (VC); individual transferable quotas (ITQ) and territorial use rights in fisheries (TURF).

The first phase of the study (Task 1, a review of existing RBM practices in the EU) was carried out by reviewing available literature and using a questionnaire-based approach to obtain specific information from fisheries administrations and key informants on RBM systems in Member States. To enable comparison between different RBM instruments, between Member States and across the different regions, a set of standard data formats were developed for the collection and organisation of information within the project. The output of Task 1 is presented separately in the Catalogue of RBM systems in each coastal Member State. The EU RBM Catalogue was submitted as an Annex to the Interim Report, which was commented on by the Commission and subsequent adjustments were made, although the Catalogue remained a 'live' document until the end of the study, so that it could be updated as more information came to light through subsequent research.

The Catalogue does not, and in our view could not provide comprehensive details on all RBM systems in the EU. What it does provide is a compilation of those systems in each Member State that were identified by the project team and in-country respondents as being the key management systems that infer rights on the fishery participants. Several additional examples are also included, which may not be applied on a national level, but provide useful case studies of particular approaches and systems.

A questionnaire (Appendix 1 of the Catalogue) was developed to guide data collection in the Member States and generate information in standard formats, thereby developing a database that would prove useful for the analysis undertaken during the remainder of the project. This provided information about the RBM schemes that exist in each Member State and the fisheries to which they apply; in particular:

- Drivers for the implementation of RBM at the country and fishery level;
- Fishery-specific information such as target species, fleet size and characteristics, location, discards and bycatch, Member States and non-Member States participating in the fishery, compliance, monitoring and enforcement;
- Scoring of the RBM system against the four criteria: Exclusivity, Validity, Security and Transferability;
- Arrangements for small boat fisheries or means to protect small-scale fisheries;
- Methods of initial allocation of rights;
- Methods of transfer of rights;
- Key issues such as concentration of fishing rights, access of newcomers, access of nationals of other Member States.

Each partner involved in the project had responsibility for collecting the required data for their allocated countries (Table 1). Data were gathered from existing literature and

from semi-structured interviews (using the aforementioned questionnaire) with government institutes and industry representatives including fishery management authorities, fishery Producer Organisations (POs) and other relevant fishermen's associations. The fisheries administrations in each Member State were given the opportunity to comment on the relevant sections, and the text was revised in light of this. To the extent possible, the project team sought information on both how each RBM system is designed, and how it works in practice. The information presented in both parts of the report is derived from the questionnaires from Member States, unless otherwise referenced.

The characteristics of each RBM system were represented through the scoring of four attributes, as identified in the Terms of Reference: Exclusivity, Validity, Security and Transferability. Exclusivity relates to whether others are prevented from damaging or interfering with an owner's rights; validity is determined by the length of time the owner of a right may exercise his ownership; security refers to the certainty and enforceability of the property right; while transferability is the extent to which the entitlement to a right can be transferred by selling, leasing or trading. A scoring system was derived by the project team, based on the OECD framework (OECD, 2006) and details are provided in the Catalogue (Part II). Scores were represented in rosette-style plots to enable easy comparison of the 'footprint' of each RBM system relative to the 'perfect' system that would score 1 for every attribute (See Part II). Given the potential for variations in interpretation of scoring guidelines, and hence subjectivity of the scoring results, frequent meetings were held between Consortium partners to discuss the results and ensure consistency. Scores were checked for the full range of systems to ensure consistency in scoring among Consortium partners. In addition to providing an at-a-glance depiction of the attributes, these scores were used to calculate a composite value which depicts the overall quality of the right, or Q value. This is discussed in detail in the context of best practice in Section 4.2.

The second phase of the study (Task 2) was the analysis of characteristics and effects of RBM systems. The analysis covered the following topics:

- The relationship between the analysed RBM system, and input or output constraints at Community level;
- The initial allocation of the total volume of rights and its subsequent evolution;
- The functioning of management tools used to distribute, monitor exchanges and redistribute fishing rights;
- The existence, functioning and monitoring of markets for fishing rights within and between Member States, whether formal or grey;
- The role of different institutions (central and local governments, communities), public and private associations and other actors in the management of RBM systems; and
- Any reasons for Member States not to implement RBM systems.

For each of these components of Task 2 the data collected during Task 1 were synthesised, and further information sought where necessary. Case studies that provided interesting illustrations of various issues were identified and investigated in more detail in text boxes.

Task 3 of the study involved the identification of best practice at EU level, with specific regard to the objectives of the CFP (sustainable exploitation of stocks, relationship between size of fleets and available resources, economic viability). The methods used in this regard are described in Section 4.

Table 1 Data collection responsibilities for each partner by EU Member State

	Member State	Atlantic	North Sea	Baltic	Mediterranean	Partner
1	Spain	x			x	AZTI
2	Portugal	x				AZTI
3	Malta					AZTI
4	Italy				x	AZTI
5	Slovenia				x	AZTI
6	UK	x				CEFAS
7	Ireland	x				CEFAS
8	France	x			x	MRAG
9	Netherlands		x			MRAG
10	Belgium		x			MRAG
11	Greece				x	MRAG
12	Cyprus					MRAG
13	Denmark		x	X		IFM
14	Sweden		x	X		IFM
15	Finland			X		IFM
16	Germany		x	X		IFM
17	Estonia			X		PoIEM
18	Latvia			X		PoIEM
19	Lithuania			X		PoIEM
20	Poland			X		PoIEM

1.2.1. *Categorisation and naming of RBM systems*

Each RBM system was categorised as one or other of the RBM types considered in this study (e.g. IQ, ITQ, TURF etc, see Table 1 in the Catalogue). In each case, the type that was considered by the project team to be the most appropriate descriptor of the management system in question was applied. However, it should be noted that the name used is not necessarily the name by which the management system is known in-country.

2. Overview of rights based management in the EU

The EU RBM Catalogue presents details of a large number (more than 40) of RBM systems in place across the EU. It is therefore a substantial document. In this section, a summary of the information contained in the Catalogue is presented, to demonstrate the types of systems in place in different regions and fisheries across the EU, their main features and their scores against the four attributes Exclusivity, Validity, Security and Transferability. The Catalogue also summarises how a number of concerns are dealt with in different RBM systems, namely:

- the concentration of fishing rights;
- the protection of small-scale fisheries;
- access of newcomers to fishing rights;
- access of nationals of other Member States to fishing rights; and
- the potential effects on discards.

Following the broad interpretation of rights in fisheries, all coastal Member States have some kind of RBM system in place and a range of RBM systems are used across the EU coastal Member States. Even licensing provides rights to fish to those with a licence to the exclusion of those without. Despite this, the RBM systems likely to be the most effective in meeting the objectives of the CFP are those that confer long-term, high quality rights to fishers and give them a 'stake' in the future condition of the resource, because of a perception that they will benefit in some way from future improvements in resource status. Such systems include quota (catch or effort) allocated to individual fishers or groups of fishers, which helps to reduce the 'race to fish', or quota allocated to individual fishers or groups of fishers who are then allowed to trade their quota allocation.

The RBM systems studied range from covering a significant proportion of a Member State's total landings, to being small, location-specific examples that may have wider applicability:

- In Denmark ITQ fisheries (Pelagics plus industrial species) represents 35% of total landings by value (2007), VTQ-fisheries (demersal species) 62% and LL (mussels etc.) 3%.
- In Sweden the 3 co-management experiments (LL) mentioned represent a tiny fraction of total landings by value, but they are of local economic importance and even more of local cultural importance (Swedes are crazy about vendace roe and with coastal shrimps from Koster/Vädarö and Gullmarsfjord in the summer time; both places are very attractive holiday areas). In Sweden the pelagic fisheries counts for 45% of total landings by value.

A number of trends based on region, fishery and the Member States' approach to fisheries management are apparent.

In order to participate in a particular fishery, often a 'bundle' of rights is necessary – for example, a licence, quota allocation and days at sea.

Limited licensing (LL) is a common means of restricting access to a fishery and the majority of Member States use this either as a main, or supporting means of managing one or more fisheries. It is used as a means of restricting vessel numbers and fleet tonnage in line with Community restrictions. All Member States are believed to operate a licensing system of some sort. Those countries for which limited licensing is not indicated in the Catalogue may still use limited licensing, but as an integral part of the management system with other RBM types (e.g. in combination with IQs or ITQs); licensing was only included where it was a key RBM system for a particular fishery or fisheries. Where other RBM systems impose more significant restraints on fishing activity, and confer higher quality rights, then that RBM system was assessed and the licensing system is not necessarily included as well.

Licences may be transferable where they can be transferred between vessels, particularly where capacity (quota or tonnage) can be amalgamated together. Examples are the Netherlands' and UK's licensing systems, although these work in support of quota-based management systems and thus neither has been evaluated in detail in the Catalogue. Most licensing systems have been categorised as non-transferable, meaning licences cannot be transferred between vessels, although a licence can change ownership if a vessel is sold together with its associated licence. In reality, there is a continuum of transferability, from strictly non-transferable (the licence is returned to the State and re-issued), e.g. Cyprus, France, Slovenia; to

transferable on sale of vessel (the licence is transferred with the sale of the vessel) e.g. Italy, Malta, Spain; to partly transferable (the licence can be transferred to a new owner, separately from the vessel, if the vessel is scrapped or decommissioned); to fully transferable (the licence can be transferred to another vessel and aggregated with other licences to increase the total capacity) e.g. Netherlands, UK. In practice, the last type, limited fully transferable licences, were only found in conjunction with quota systems and therefore have not been scored.

A range of (catch) quota measures are also used, in most cases to distribute the national allocation of Community TACs. As a result, North Sea and Atlantic stocks which are managed by TACs and where a Community quota is established and distributed to Member States are the main stocks for which RBM systems such as IQs, VCs and ITQs exist. The need for Member States to distribute and manage their quota allocation has been a key driver for the establishment of many of these RBM systems.

The extent of transferability of rights in catch quota-based systems varies between Member States. Most countries have established restrictions on transferability, and as a result IQ is the commonest form of catch quota system (used in Italy, France, Belgium, Sweden, Germany, Latvia, Lithuania and Poland). For many countries, transferability has been purposefully constrained with the aim of protecting national interests in fishing and avoiding the concentration of fishing rights in the hands of a few large (possibly foreign-owned) companies (e.g. in Belgium and Ireland) (see Box 32). Others Member States have established greater levels of transferability of catch quota-based rights (i.e. ITQs, or IQ systems with significant transferability features): Spain (NEAFC demersal fisheries); Portugal (NAFO demersal fisheries); Denmark (pelagic and demersal fisheries); Netherlands (pelagic and demersal fisheries); UK (pelagic and demersal marine fisheries); and Estonia (offshore herring, sprat and cod fisheries). However, even in the cases of transferable quota, there are often restrictions on transferability (e.g. only within a fleet, or only between POs/nationally-flagged vessels). Many systems show a gradual evolution towards increasing transferability, such as the UK (IQ/ITQ), where transferability has gradually increased in the system, as a result of demand from industry, although it is not a fully-fledged ITQ system. There are also differences regarding whether quotas are allocated to fishers and can be transferred independently of the vessel (IQ or ITQ), or whether the catch quota is linked to the vessel and can only be transferred with the sale of the vessel itself (VC e.g. Ireland). A further quota-based system is Community Quota, not used as extensively as IQ or ITQ, found in Portugal, France, Belgium and Poland.

Effort-based quota systems are less common than catch-based quota systems because this type of RBM system often occurs in those same fisheries for which catch quotas are in place. Usually, the catch quotas are the key instrument used to manage these fisheries, and effort restrictions have been introduced as a complementary measure to minimise bycatches, discarding and quota overshoots. Therefore, the catch quota system was judged to be the main RBM system for the fishery and the effort-based system is included as a supporting measure, but not scored. However, the more complex such arrangements become, implementation, monitoring and enforcement also become more difficult. The superimposition of effort restrictions on a quota-based system may result in reductions in economic efficiency, for example, the days-at-sea restrictions imposed on IQ and ITQ systems in the North Sea. IE and ITE systems were found for specific fisheries, e.g. the coastal fishery in Latvia (IE), salmon netting in the UK (ITE), and the coastal fishery in Estonia (ITE).

The continental shelf in the Mediterranean basin is generally narrow and fishing grounds are usually found close to the coast, within territorial waters. To date none of the Member States have claimed Exclusive Economic Zones (EEZs) in the Mediterranean although Fisheries Protection Zones have been declared in some cases (e.g. Spain and Malta). In principle, the fundamental policies underpinning the CFP have been applied and enforced in the Mediterranean in an equivalent manner to other Community areas. However, in practice, there are important differences in detail. The general paucity of data on fish stocks has meant that the conservation policy could not yet be based on a system of the total allowable catches (TACs) and quotas, even if that were the objective. The only exception is bluefin tuna where TACs have been in existence since 1998². Fisheries management in the Mediterranean therefore continues to rely fundamentally on input controls (effort restriction) through limited licensing. This is reinforced by a raft of technical measures, restrictions on fishing time and limits on fishing areas. The development of marine protected areas in particular is emerging as a key management tool.

In the Baltic Sea, fisheries are managed jointly by the EU and Russia, who each set their own TACs (the 'Agreement between the European Community and the Government of the Russian Federation on co-operation in fisheries and the conservation of the living marine resources in the Baltic Sea', which should have been implemented from 01/01/2007 has not yet come into force). With respect to the EU, the fisheries are predominantly managed through IQ systems in the coastal Member States. This applies to coastal and inshore fisheries as well as offshore fisheries, for herring, sprat and Baltic cod. Some systems are a 'Community Quota' arrangement, where individual fishers fish against a common pool of quota. This occurs, for example, in the Polish coastal herring and sprat fishery, in which only 40% of the total national quota is being used, therefore there is not currently a need to allocate quota to individual fishers or to restrict fishing activities further. Estonia has opted for a more market-oriented approach and has implemented transferability in its main fishery management systems (ITQ for the offshore herring, sprat and cod fisheries, and ITE for the coastal plaice, perch, salmon and herring fisheries).

TURFs are established across all regions of the EU and are applied mainly to inshore areas and for sedentary (often shellfish) stocks. In Italy, consortia manage the inshore clam-fishing grounds; in Spain, *Cofradias* manage and control access to shellfish grounds; in Sweden and Finland there are privately-owned marine areas as well as co-management experiments in public waters for shrimp and vendace fisheries in Sweden; and in the UK there are TURFs managed by co-operatives for shellfish. In addition to TURFs for sedentary species, there are examples of a TURF approach being used for pelagic resources: sardine in Portugal, and dolphinfish (through access to FAD sites) in Malta.

The RBM systems that tend to score most highly in terms of Exclusivity, Validity, Security and Transferability, are the ITQ and ITE systems (by their very nature, indicating a high score for transferability), and TURFs, which tend to score highly on the other characteristics but low on transferability. An exception to this is the Swedish TURFs on inland and coastal waters that are under private ownership and therefore fully transferable on the land transfer market.

Limited licensing tends to score low on most characteristics. The exclusivity score is low because the resource is shared with other licence holders, and there is no

² Bluefin tuna is managed through a TAC set by the International Commission for the Conservation of Atlantic Tuna (ICCAT). The TAC allocated to EU Member States is subsequently allocated either as IQ (e.g. Italy) or ITQ (e.g. Spain) to fishers.

guarantee of a restriction on catches; licences are often non-transferable therefore the transferability also tends to be low.

It should be noted, however, that just because these systems score low in terms of the four attributes, this does not necessarily mean they are not an effective means of managing a fishery or achieving stated fishery policy objectives. In some cases, transferability is purposely restricted (resulting in a low score), with the aim of protecting the interests of fishing communities. There are examples of successful co-management initiatives in the Mediterranean (successful in maintaining the sustainability of the resource, reducing conflicts, and achieving social objectives) (see Box 33) that are based on limited licensing. It is therefore important to consider the outcomes in terms of sustainability of stocks, economic viability of fleets and achieving social objectives, and how the RBM system functions in each case, rather than the score in isolation.

Overall, in fisheries which are managed by a quota, there has been a trend for moving from a quota pool (community quota, CQ), when the catches of the fleet do not exceed the overall quota (e.g. Poland coastal herring and sprat fishery), towards individual quotas (allocated either to vessels, individuals or companies) once fishing capacity increases to a level where there is competition for the quota. Individual quota can help reduce the race to fish as each company/vessel has the 'guarantee' of a certain quantity of quota. These systems subsequently tend to increase in transferability, either through policy decisions (e.g. Sweden, Denmark), or through the *de facto* establishment of markets for rights (e.g. UK).

3. Analysis of characteristics and effects of RBM

This section of the report addresses Task 2 in the Terms of Reference. In essence, this seeks to examine a range of specific RBM characteristics and effects, specifically:

- Allocation and duration of rights;
- Transfer of rights and market for rights;
- Institutional aspects of RBM (roles and responsibilities); and
- Constraints to the development of RBM in EU Member States.

3.1. Allocation and duration of rights

3.1.1. Initial allocation systems

In most RBM systems used by Member States, fishing rights were initially allocated according to the historical track record of the owner or vessel. The most common approach to allocating rights was by basing them on historical catches, landings or engine power of vessels throughout fixed reference periods. For example, Danish VTQs are allocated based on landings over a fixed three-year period; the Swedish allocation of IQs is based on historical track record from 2000-2004; and similarly in Germany, fishing rights (quotas) have been allocated on the basis of fixed reference

points for vessels fishing in both the North Sea (landings in 1986/87) and the Baltic Sea (landings in 1989/90).

Some quota allocation systems were initially based on rolling reference periods, but these often resulted in strategic fishing activities in an attempt to maximise the proportion of quota received in subsequent years. As a result, rolling reference periods have generally undergone a move to fixed reference periods (e.g. France and UK). In the UK, the division of national quota among the POs and non-sector vessels was initially based on the combined track records over the previous three years of vessels greater than 10 m in length that were members of each PO or group³. However, the landings records were not always trustworthy and fishers changed their fishing patterns to maximise the following year's quota allocation (see Box 1).

Box 1: Change from a rolling reference period to a fixed reference period for quota allocation in the UK

The division of the UK national quota between vessels in POs and not in POs ('sector' and 'non-sector vessels') was initially based on the track record of total landings of all over-10 metre vessels belonging to POs during the previous three years. Enforcing the accuracy of these records proved difficult and led to problems, one of which was that rolling track records for individual vessels were not necessarily trustworthy. Some skippers over-declared landings in order to enhance their track records. Fishers would also strategically alter their fishing patterns during the rolling period in order to gain maximum benefit when quota was allocated for the following year. To prevent this kind of manipulation, a fixed three-year reference period in the past was agreed as the basis for allocating proportions of the national quota in terms of 'fixed quota allocation' units (FQA) linked with each vessel's licence and based on their track record during 1994–1996 to obviate strategic fishing in the lead-in period. See Hatcher *et al.* (2002) and Anonymous (2006) for further details.

An unintended consequence of this system was that vessels that were inactive for any reason (e.g. an overhaul) during the agreed reference period found themselves disadvantaged with a sharply reduced FQA from then onwards (Read 1999). This problem was subsequently adjusted with the FQA 'formula method' which allows disadvantaged non-sector vessels to join a PO with an alternative set of FQA based on landings during the previous three years (Anonymous 2008c).

In the Netherlands both historical catch landings and vessels' power are used for initial allocations. In the first instance, individual quotas received by fishermen that fished prior to 1 January 1974 were based on the highest amount of plaice and sole landed in the years 1972, 1973 and 1974. For ships under 1,250 hp commissioned after this date, quotas were based on the average performance of the vessels in the same horse power group. For ships with more than 1,250 hp, quotas were fixed by the Ministry. This system met a lot of resistance from parts of the industry because it resulted in considerable differences in quotas between vessels of similar capacity. As a result, the system was revised in 1977, adjusting IQs both to engine power and to historical performance. The 1977 allocations are still the basis of the present quota system.

³ POs differed in how they allocated quota to members. In some, there was an equal sharing among members with leasing of additional allocations among members; others allocated quota according to the rolling track records of vessels or companies.

The allocation of fishing rights in France provides an interesting example of how a combination of factors can be used to allocate rights when licences to fish are renewed. For national licences, special fishing permits and community quota, the initial allocation is based on the three national criteria: historical track records; socio-economic equilibrium; and market orientation. In summary:

- 1) *Track record of each PO member vessel* — equals the average of reference landings for the years 2001, 2002 and 2003. The amount can be reduced if the PO over-fished its quotas the previous year and increased if the PO concluded an exchange of quotas with another PO. Prior to 2006, the quota reference was a sliding three-year average, but this encouraged opportunistic behaviour by fishers in an attempt to increase their track record and speculation on quota. The fixed reference point was adopted to discourage such behaviour.
- 2) *Market orientation* — in relation to the market and to maximise the value of landings, the Minister can fix a periodic limit of capture or landings per PO, vessel, or group of vessels.
- 3) *Socio-economic equilibrium* — the Minister may allocate quotas by establishing specific access criteria to a fishery for socio-economic reasons. The access criteria can be related to a *métier*, gear, region, fishing area or landing site.

The use of socio-economic factors when determining initial allocations is also prevalent in Spain, where rights are allocated using a combination of historical records (60%) and socio-economic dependency (40%) for the bluefin tuna ITQs.

Auctions have been used rarely for the allocation of rights in European fisheries. There are historical examples of the use of auctions to distribute fishing rights, for example, leases for oyster beds in the Dutch province of Zeeland were allocated through auction from 1870 until shortly after the outbreak of the First World War (van Ginkel, 1988). In terms of recent examples, the only Member State found to use auctions in allocating fishing rights was Estonia (Box 2).

In many of the TURF systems, rights and privileges have a long history and are based on historical presence community groups in a given area. In Spain this is the case with the *Cofradías* (Box 22). In Italy, vessels fishing traditionally for clams in a given ground on a given maritime district were invited to form a consortium. An initial requirement was that the consortium must account for 80% of dredges in a given area.

There are not many examples of prior resource users being excluded by the establishment of an RBM system, although this tends to be more common with TURFs. In the Galician on-foot shellfish TURFs, part-timers were excluded from the activity (Box 3). TURFs also tend to be the most difficult RBM type for newcomers to access once the system has been established.

There is limited information available on the correspondence between different controls, such as catch allocations and days at sea. This mainly applies to North Sea stocks, where days at sea limitations were introduced to complement quota management. It also occurred in Spain, where days at sea were indirectly converted to catch allocations, and in Latvia, where days at sea were introduced to further restrict fishing pressure.

Box 2: Examples of auctions for fishing rights in Europe***Historical auctions in Zeeland for shellfish beds***

The culture and harvest of shellfish has been practised in the estuaries of Zeeland for hundreds of years. Van Ginkel (1988) reports how, in 1870, the Dutch Minister of Finance decided that the Yerseke Bank, an extensive natural oyster bed, would be divided into parcels to be leased at a public auction. The first public auction was held in Tholen on May 6, 1870. At the ensuing auctions the lease fees offered skyrocketed, due to the importance attached to leasing a quality plot so as to be able to plant oysters and secure a reasonable return on the investment. Van Ginkel also reports that the public auctions were held in taverns, which stimulated excessive drinking, and consequently, reckless bidding. Jealousy, mistrust and sometimes even open hostility also encouraged oystermen to outbid each other.

The majority of the access rights were secured by wealthy urban entrepreneurs rather than established oystermen, who consequently had to find jobs with the newly established oyster companies. Rapid industrialisation and capitalisation followed and oyster production multiplied. However, the competitive struggle to gain access rights soon led to overproduction and a shrinkage in profit margins. In 1914 the public auction was abolished, new leases were introduced, and fees were calculated as a percentage of gross proceeds at the request of the newly formed Co-operative Oyster Marketing Organisation (van Ginkel *ibid.*).

Auctions for quota in Estonia

Up until 2005, the allocation of 10% of available fishing rights in Estonia was distributed through auction each year, with the remaining 90% being distributed in an allocation based on historical track records. The allocations bought through auctions would form a part of recent catch and gear-use history (Vetemaa *et al.*, 2002). The starting price of the fishing rights at auctions was determined on the basis of the fishing fee. At the time the fee itself could not exceed 3 % of the normal value of the landing price of fish. In the first year the value of the 10% of fishing rights sold at auction was twice as high as the value of the 90% of allocated fishing rights. The price of some lots of fish increased by a factor of ten.

The auctions were stopped in 2005 as part of a rationalisation of the whole ITQ system. The demand for the additional quota through auction was low and in some years (e.g. 2003) the fishermen did not even participate in the auctions. This may have been in part because fishers were anticipating the advent of the new Fishery Act and the likely decline of the national quota. The Ministry of Agriculture indicated that auctions were abandoned for three main reasons:

- 1) The auctions became very unpopular among fishermen, who were not happy that they had to compete between themselves and with possible newcomers in order to buy 10% of the fishing possibilities at a high price through auctions every year. The decline of prices for fishery products in Ukraine and Russia (the main export partners at that time) and a decrease in quotas in 2003 caused a decline in profitability in the fisheries sector and a decline in demand for additional quota through auctions.
- 2) It was not reasonable to allocate fishing possibilities to newcomers given that fishing capacity exceeded the available fishing possibilities.
- 3) Investment possibilities for companies were diminished.

The outcome was the concentration of fishing possibilities with large companies – a number of small companies collapsed because of the high prices paid at auctions. It also initiated the process of balancing the fishing capacity with available resources.

Box 3: Exclusion of prior resource users in the Galician shellfish TURFs

In the 1960s, the national authorities tried to rationalise and manage the on-foot shellfish gathering activity with the introduction of new regulations. All shellfishers had to have a shellfisher card issued by the *Cofradía*, and there was a closed season from March to October. Obtaining this card was very simple, and there were no limits on their number. As a result, the number of shellfishers almost became out of control because the potential income from the activity was comparatively high, taking into account the time invested, especially during the first days of the open season. In 1974–1975, the number of shellfishers reached almost 60,000.

During the 1980s, regional authorities tried to reinforce the previous rules by introducing several regulations that refined the requirements for shellfish gathering, for instance, a shellfisher training certificate was required (Decree 116/1987, regulating the requirements for shellfishers). However, national and regional laws and decrees were insufficient to regulate the activity, mainly because there were no limits on the number of licences that could be issued and the shellfishers themselves were not organised.

In 1993, the administration introduced a system of licensing for on-foot shell fishing exploitation permits or 'Permex', creating a type of limited licensing system. At the same time, they promoted a process of professionalisation, requiring payment of Social Security by all shellfishers, and demonstration of a minimum number of days and catches per week. Only those who complied and who had a Permex shellfish licence were entitled to fish. These restrictions cut down the number of on-foot shell fishers and excluded part-timers. In 1996, there were 7,852 on-foot gatherers in 2003 that figure had shrunk to 5,563 (Mahou-Lago, 2006; Fangourdes *et al.*, 2008). Rationalisation of the activity is said to have improved resource status, increased wages and enhanced the quality of the catch, which in turn resulted in a rise in prices

Source: Mahou-Lago, 2006; Fangourdes et al., 2008.

When days at sea were introduced to the Netherlands fisheries, the allocation was dependent on the type of fishery, documents, individual quotas and engine power. For example, the North Sea beam trawl fleet was limited to a maximum of 143 days in 2007. The Netherlands opted to apply as much flexibility as possible within the limits of the rules: both the mutual transfer of days between vessels and transfer between management periods were permitted, in accordance with the relevant conditions (Vermuë, 2007).

In the UK, days at sea allocations do not correspond to quota allocations, but are allocated on a separate basis. If a vessel fished in the cod recovery box or the sole recovery box during the reference period (2001–2005), a days at sea allocation can be claimed. Vessels can transfer days at sea to other vessels, although there is a limit to the amount that can be transferred — they cannot transfer more than the average number of days they actually fished during the reference period. If days are transferred to a vessel with a different engine capacity, they are pro-rata'd according to capacity. For example, if a vessel with an engine power of 200 kW wanted to transfer 5 days at sea to a vessel with an engine power of 100 kW, the receiving vessel would receive 10 days at sea (Iain Mathieson, MFA *pers. comm.*).

In the Spanish 300 fleet, fishing was originally controlled through effort regulation and days at sea. Vessels' days at sea allocation influenced the amount of catch they

were able to take. Therefore, when quota allocations were introduced in 2006, based on the historical catch history of vessels, they were indirectly influenced by the previous days at sea allocations, although there was no direct link between the two.

Most Baltic countries do not have any fisheries where there are both catch allocations and days at sea. The exception is Latvia, where days at sea limitations were added to the IQ system to give more security that the stock would not be over-exploited. However, no further information regarding how catch quotas relate to days at sea rights was available.

3.1.2. Provisions for new entrants

RBM schemes which restrict access to fisheries inevitably have an impact on the access for potential newcomers to the sector. For fisheries managed through licensing schemes, if there is still spare capacity in the fishery, new licences can be issued fairly easily (e.g. Slovenia and some Italian fisheries). However, in most fisheries this is not the case, and all available licences have been issued. In such cases there is no specific mechanism to reserve some rights for future use either for conservation issues or in the interest of new entrants. Also, licences are typically automatically renewable at the end of their period of validity at the right-holder's request. Therefore, to obtain a right, new entrants in most cases must buy a vessel with a licence attached, given the authorisation of the competent authorities.

In Greece, the local fishermen's union and their employer (they must not work in the public sector) must agree to the issuing of a licence to the person; a vessel licence may also need to be obtained. In France there are a number of rules and priorities for issuing licences, which vary by region and fishery according to local priorities (see Box 4).

Some countries have introduced mechanisms to guide the re-distribution of withdrawn or returned licences, especially where licensing is the principal management tool. For example, Cyprus has a 'targeted new entrant' scheme which aims to re-orientate rights through specific conditions for holding them in the small-scale fishery (Box 5); and Italy has targeted the redistribution of withdrawn, cancelled or returned licences for conservation purposes (Box 6).

For quota-managed systems, the most common requirement for new entrants is to purchase a company and/or vessel with associated quota rights. This is the case for IQ, VC and IE systems in Italy (bluefin tuna), Ireland, Belgium, Germany, Latvia, Lithuania and Poland, and for ITQ and ITE systems in Spain, Portugal, UK and Estonia. In the case of decommissioned vessels, their treatment depends on the scheme — sometimes rights can be taken over only if the vessel was decommissioned without the use of public aid; in other instances, rights can be transferred from a decommissioned vessel to a new vessel (see section 3.1.5).

Where a vessel is decommissioned with public financial assistance, its licence is usually taken over by the State (France, Belgium, UK, Slovenia, etc). The licence then may be redistributed depending on the rules applied in the particular fishery or fishing segment, for example, a licence could be re-issued to new entrants, another segment, to another gear, or to another geographical area to redistribute fishing effort. A licence may not be re-issued if there is overcapacity in the fishery. Transferable quota systems (ITQ and ITE) can be slightly more flexible in allowing entry to newcomers, since they do not always have to buy a vessel with associated

rights, but can purchase the two separately (although in Spain a vessel from the census must be bought). Both UK and Denmark have specific schemes that aim to facilitate the entry of newcomers to IQ/ITQ-managed fisheries (see Box 4 and Boxes 3 and 4 in the Catalogue (Part II)).

Box 4: Examples of requirements and schemes for new entrants in RBM systems

Limited licensing in France

The Consultative Commission examines new demands for Special Fishing Permits (SFP), and advises the administration, which issues the licence. A leaving SFP holder can advise the Commission on the newcomer to whom to attribute the SFP, but the Commission and then the Administration are free to make their own final decision. Priorities for attribution of rights are defined for each SFP, based on a combination of track record, socio-economic equilibrium and market orientation. There are other variants for the regional and national licences: for a national licence, new demands for licences get third (last) priority behind renewals and renewal of the licence with renewal of the vessel; with the regional licence, the order of issuance to newcomers depends on their project for fishing diversification or in the case of older fishers, their project to switch fishing activity:

- New entrants: experience and training of the owner are taken into consideration (with a precise evaluation system), in the case of equal scoring, the date of the first demand for the given licence will be taken into account (if the demand was unsuccessfully renewed in previous years).
- New demands: the order of priority depends on the type of project: (1) diversification of fishing activities with priority given to the owner having the fewest licences; (2) switch in fishing activity especially for fishers close to the end of their fishing activity; (3) increasing a fishing enterprise with the acquisition of a new boat; (4) others.

Quota-managed systems

- France (IQ & CQ) – Since rights cannot be transferred in France, a licence for specific stocks must be obtained (under the LL criteria), and a demand for transfer of quotas must be submitted. A quota reserve has been created to provide some track record for new entrants to the sector.
- Germany IQ system – newcomers must buy a vessel with a catch quota allocation.
- Lithuania IQ system – newcomers must buy a company that is fishing (i.e. has a quota allocation through its historical track record), or acquire rights through inheritance.
- Belgium IQ system – There is no quota reserve for future use or new entrants, but the system has been designed to avoid high entry costs and thus protect the interests of future generations entering the fishery.
- Spain ITQ systems (NEAFC, swordfish and bluefin tuna) – rights can only be transferred within the census, so newcomers must buy a vessel from the census with its associated fishing rights.
- UK IQ/ITQ system – newcomers can obtain a licence entitlement with or without a vessel. A vessel can be sold with its licence entitlement, or if the vessel sinks, is scrapped or deregistered, the entitlement may be sold separately within three years. This can include vessels decommissioned with public funds, although some decommissioning schemes have also decommissioned the associated quota. Newcomers must also obtain FQA units for quota stocks if the vessel is over 10m length; these may be traded separately from the vessel. Since the purchase of vessel, licence and FQA units can be very expensive, the UK

under-10 metre vessel sector, which receives a fixed allocation of the national quota, can provide a lower-cost entry route for newcomers to the industry, from where they can work their way up to larger vessels.

- Denmark VTQ system – There is a holdback/reserve scheme through which new entrants can make a multi-annual quota loan. Every year a small proportion of the national quotas are set aside for loans to new entrants below the age of 40 (i.e. young fishers). New entrants have to apply for a loan before 31 March each year. The loan period is a maximum of eight years. After four years the loan is reduced each year. In addition, new entrants are allowed (with some limitations) to buy VTQ from existing vessels without necessarily taking ownership of the vessel. The intention is that during the loan period (especially after the fourth year), the newcomer becomes well-established and financially able to buy the VTQ he wants on normal conditions. At present there are 20 young fishers who have taken out quota loans.

TURFs

TURFs deal with new entrants in a variety of ways:

- Spain, TURFs – *Cofradias* can issue new licences if the resource is in good shape, although newcomers must join the *Cofradia* and usually need to take part in a number of courses.
- Malta, dolphinfish TURFs – newcomers can access the fishery through the lottery system, up to 130 operators.
- Italy, clam consortia – newcomers must buy a dredge with its licence and join a consortium. However, this is not very common since vessel transfer is usually carried out only between members of a consortium.
- Sweden, TURFs – For private TURFs, newcomers can gain access through the purchase or rental of land and waters; for the public TURFs access is restricted and based on historical track record and regional/local considerations.
- UK, shellfish TURFs (Solent oyster) – New entrants can only join the scheme when existing members leave the group holding the Several Order.

Box 5: Targeted reallocation of licences in the small-scale fishery in Cyprus to favour a certain category of new entrants

Fishing licences in Cyprus are not transferable or tradable, and are allocated each year. In cases where an authorised fishing vessel is sold the licence to fish is not transferable to the new owner. The new owner needs to apply for a licence to the Department of Fisheries and Marine Research (DFMR). The 2000 fisheries law and regulations establish the criteria for the granting of licences and promote the concept of a genuine link of the fishing vessel with the flag state. In addition, in the small-scale fleet, right reallocation favours entrants already working in the small-scale fishing sector. Conditions are as follows:

1. own a vessel with a total length of 4 to 12 meters;
2. owners are registered with the Social Insurance Fund and pay the required contributions;
3. owners have had at least two years' experience in fishing following sufficient and substantial occupation as an assistant to a person who holds a licence for small-scale fishing.

Box 6: Redistribution scheme of limited licences for conservation purposes in Italy

In Italy, due to the state of the resources, the law 41/1982 introduced the current conservationist policy based on a generalised licensing scheme (GLS) and, even more importantly, introduced National Triennial Plans. The issuance of limited licences is framed by the Triennial Plan which identifies fishing areas where fishing effort exerted by a particular gear should be reduced, in case of decreasing economic yields caused by resource overexploitation. For the last few years no new licences have been issued and the ban is still operating. The utilisation of the licensing scheme also includes the possibility to redistribute licences which have been withdrawn or returned to the public administration (MD 26 of July 1995). Redistribution can take place considering different fishing areas, gears and a given vessel's dimensions.

In the case of TURFs, access for newcomers is usually very difficult following its initial establishment. Newcomers must join the relevant association, consortium or group, which is sometimes only possible when existing members leave the group. Access may also be further restricted by historical track record and regional/local considerations.

A number of RBM systems include measures for the protection of coastal communities and small-scale fisheries through their initial allocation systems. These are detailed in section 2.1.2 in the Catalogue. For example, small-scale fisheries or gears may be allocated a portion of the quota, either individually or as a quota pool, and zones are often established for the exclusive use of the small-scale sector. TURFs often provide territorial rights to small-scale fisheries, and limits on transferability are established in some cases to protect the small-scale sector.

3.1.3. Validity, cancellation and redistribution of rights

The validity of rights ranges from a short time period (e.g. a year or less) to 'in perpetuity'. In general, limited licensing schemes and individual non-transferable rights (effort, quota or vessel catch limits) tend to have shorter validity periods than TURFs and individual transferable rights (effort, quota, or vessel quota) (Figure 2). However, all of the RBM types demonstrate a range of scores for validity, indicating diversity in their application⁴.

Even though some rights may have a short duration, in practice they may be automatically renewable, giving a much longer-term stake in the fishery (see also Section 3.1.4). For example, in Belgium, rights are allocated on an annual basis for specific fishing periods (January–June; July–October and November–December). However, allocation of quota to individual vessels is determined by the vessel's engine power (kW). Since this remains stable through time, the vessel will always be entitled to the quota allocation, so that in effect the rights have a much longer validity.

⁴ The methodology used for allocating scores for validity is explained in Part II, section 1.3.3. Where possible, we allocated scores according to the published information on the period of validity of the rights – higher scores indicating a longer period. In practice, renewal of licences often significantly favours previous licence holders (assuming good behaviour), giving the impression of a longer term right. We endeavoured to reflect this in the scoring, because, although informal, it has been recognised by (for example) the banking system, and therefore enhances the quality of the right.

In order to fish, often a ‘bundle’ of rights is necessary – for example, a licence, quota allocation and days at sea. In this case, the right with the shortest duration is key to determining the overall validity, since having a quota allocation and a licence to fish is useless without also having days at sea. Nevertheless, in most cases, even though licences may be valid only for a year or less, they are in practice renewable without much limit.

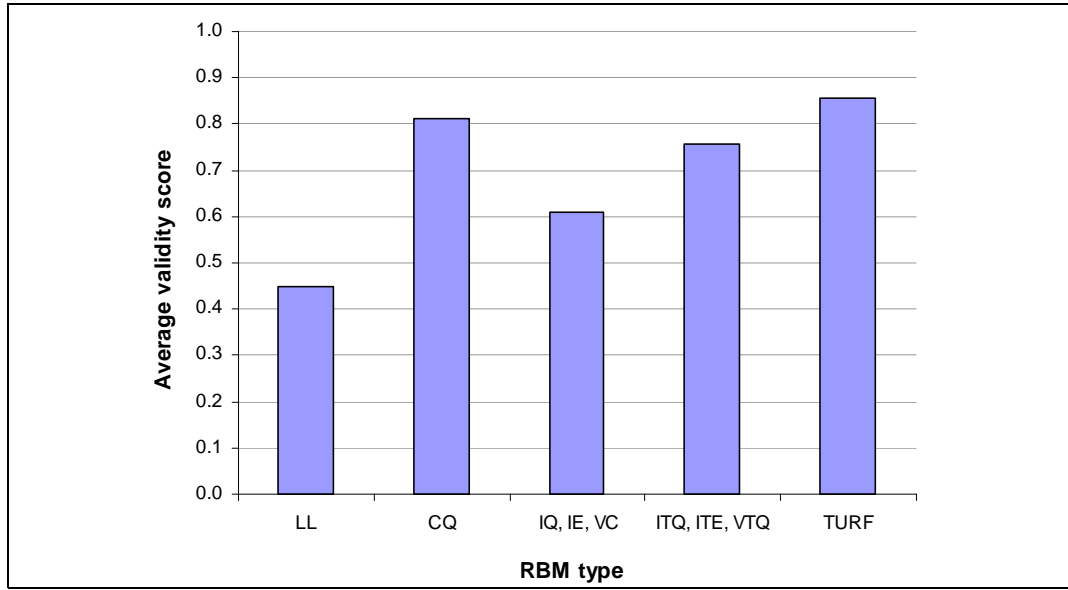


Figure 2: Average validity score of EU RBM systems, by RBM type

Licence systems generally include provisions for licences to be cancelled or revoked for certain offences, a typical case being Slovenia where a series of actions may result in the revocation of the licence, such as failure to declare fishing activities, use of unauthorised gear, and fishing in marine reserves. In practice, countries seem to use revocations sparingly.

TURFs are allocated for an indefinite period. There seems to be no question of traditional TURFs being revoked. In most cases where TURFs are given to groups (as with *Cofradías* in Spain, co-management initiatives in Sweden or clam TURFs in Italy), TURFs are not transferable, but internal rules are set to manage access to the TURF’s resources. Newer types of TURF-like systems are emerging with validity and rules for redistribution that are totally different, such as the dolphinfish TURF-like system in Malta (Box 7).

In the case of IQ systems, the validity depends on the nature of the transferability which is officially built into the system. With ITQs, rights tend to be permanent, whereas IQs tend to be defined for a given period of time (usually annual, sometimes less) (Box 8). However, this difference is more apparent than real. There are exceptions though; in UK the issue of validity of FQAs has not fully been resolved. Officially, they are not permanent and therefore do not confer compensation rights for fishers if they lose their FQAs. Whatever the transferability arrangements, the practical expression of the IQs in terms of fishing possibilities is calculated as a percentage of the TAC (which varies from season to season, usually annually).

Box 7: Validity and redistribution scheme in TURF-like system in Malta

TURF management is applied to dolphinfish management in Malta. This system is based on the use of Fish Aggregating Devices (FADs). The management can be categorised as a TURF-like approach since it gives the right-holder exclusive right of exploitation in a given area. A maximum number of 130 concessions are issued each year for this activity. Rights are allocated for one year thus the validity score is low. Automatic renewal does not exist.

Allocation takes place through an annual lottery in which an operator gets access to one area in which a minimum number of FADs must be placed. However, the chances of receiving an area are high since the number of applicants does not usually surpass the number of fishing opportunities. Only vessels registered in the Maltese fleet register can participate in the lottery for areas within the 12 nm limit. Since registration of new boats is forbidden this brings exclusivity to the right. In the 12-25 nm area, foreigners can also participate, if all fishing possibilities are not taken up by Maltese operators.

In some cases, a proportion of the rights are not allocated. These rights may be used for conservation or redistribution purposes. For example, when the Netherlands Sole and Plaice ITQs were initially allocated, a small portion of the national quotas (1–3%) was not included in the allocation, but was kept as a 'National Reserve'. This reserve was meant to compensate for eventual excess landings. More recently, in the Danish pelagic fishery, some quota has been held in reserve with the aim of enticing new-generation entrants into the industry.

Box 8: Comparison of validity of rights in IQ and ITQ systems in Belgium and the Netherlands

The validity of right scores are very different in the Dutch (1) and Belgian (0.25) beam trawl fisheries despite the similarity of the fishing activity and in many ways of the management systems. This difference arises from the different standpoints adopted towards transferability and ownership of rights. While the Netherlands has opted for a system where ITQs are permanently allocated, Belgium has opted for a collective system with IQ based on kW. The validity period of IQ may be considered in different ways. On the one hand, they are granted for a short period within a year (3 periods: January–June; July–October; November–December). Unused quotas at the end of a period are pooled and redistributed for the following period, which explains the low score of right validity. But on the other hand, the attribution of individual quota is based on a vessel kW. As such, the right remains through time as long as the owner keeps his vessel. Moreover, the system offers the possibility of acquiring more quotas by adding the kW of withdrawn vessels (withdrawn without the use of public funds).

As a result, the practical impact of the difference in validity of the two systems may be rather less than might be expected at first sight. Currently, the main risk is not related to the validity of the right by itself, but to the fact that because the right is specified as a percentage of the national quota, it can be zero in the case of stock collapse.

In France where a similar system is emerging managed through the POs, a quota reserve has been created. This reserve aims to: (a) facilitate the exchange of quotas with other EU countries; (b) allocate quota to new entrants in the sector; (c) allocate quota to POs to improve the balance between fishing capacity and fishing possibilities (in particular to allow reconversion of vessels affected by the European Commission reconstitution plan). The reserve is not a fixed amount; it may increase in a number of ways, such as through the addition of unused quotas, or of penalties for over-quota fishing by some POs, and also through addition of track records from vessels that are decommissioned with public funds. In cases b) and c), reallocation is reviewed individually by the TAC and Quotas Commission.

In Belgium, a system of IQs exists. Although use has not been made of a reserve for future use (for the interest of new entrants or for conservation issues), the quota system has been specifically designed to avoid high entry costs and thus protect the interests of future generations entering the fishery. As such, the collective system itself is seen as a mechanism to protect such interests and to take into account future use (and users) in the allocation of rights.

3.1.4. Emergence of permanent rights from temporary rights

Although licences are usually issued for a limited period of time, most often one year, they tend to be renewable automatically. In such circumstances, permanent rights can emerge on a customary law basis. There do not seem to be any examples in the EU where measures have been taken to prevent this from happening.

With traditional TURFs, the rights are usually permanent. For example, in Spain, both civil society and the law recognise the role of the *Cofradías* and their traditional rights to exploit coastal areas. Not only is there no specific mechanism to avoid the permanency of this right, it could be argued that the integration of *Cofradías* into the modern management framework represents a recognition of their rights over coastal waters and a step towards the consolidation of TURFs into permanent entitlements.

Entitlements to ITQs are also typically permanent. Even if not initially intended to be permanent, it may be difficult to prevent the right from becoming *de facto* permanent, especially once it has been sold or otherwise transferred. Some countries have chosen to allocate rights for limited periods, for example eight years for the pelagic fisheries in Denmark and annually renewable rights in Estonia. Whether such restrictions make any practical difference is a moot point. Even in systems where rights are not transferable (IQs), the allocation of rights tends to be based on some kind of 'historical record' (or vessel power in the Belgian case) with the result that the rights tend to become informally permanent so long as owners keep their vessels.

Many of the RBM systems have evolved over time, and some issues, such as the permanence or not of fishing rights, have never been clearly defined. The Scottish Government is currently undertaking a consultation on the future of quota management in Scotland, to specify a system that might be applied if the quota management system in Scotland were to be separated from that in England & Wales. The proposal includes the definition of 'use rights'. These would not be granted in perpetuity, but for a fixed period of time which would allow businesses sufficient certainty for medium- to long-term planning. In the case of market failure, and/or if rights were not being fished, the authorities would reserve the right to reclaim and redistribute the rights, after the issuing of an appropriate notice period (e.g. five years) (Scottish Government, 2008).

3.1.5. Decommissioning schemes

OECD recommends that fisheries management systems are designed to prevent overcapacity and overfishing from occurring, and that there should be appropriate incentives for fishers to automatically adjust fishing capacity and effort, so as to avoid the use of expensive decommissioning schemes where possible. The draft principles and guidelines on decommissioning schemes from the OECD are summarised in Box 9.

Box 9: OECD draft principles and guidelines for decommissioning schemes

Principles:

- It is preferable to take preventative measures to avoid overcapacity from occurring; fisheries should have incentives for fishers to automatically adjust fishing effort and capacity;
- Decommissioning schemes can be used when urgent action is required to bring fishing capacity into line with available resources;
- They should provide value for money, be cost-effective, well-targeted and time-limited;
- They should be part of a package to address problems of overcapacity and overfishing, which includes social measures such as opportunities for retraining.

Guidelines:

- Decommissioning schemes should have well-defined and measurable objectives and reduction targets that are achievable and will have a positive impact on resource sustainability and economic profitability;
- Management policies for the fishery should be coherent and mutually supportive;
- Management arrangements should prevent capacity re-entering the fishery or other fisheries subsequent to the decommissioning scheme;
- Fishers' incentives should be appropriately aligned to facilitate self-adjustment of fishing capacity and effort in the future, which can be done by improving the specification and enforcement of input or output access rights;
- Decommissioning schemes should be part of one-off structural adjustment programmes, so as not to create an expectation of future schemes and thus distort investment incentives and plans;
- Expected benefits and costs should be evaluated to ensure a net increase in economic welfare;
- Stakeholder involvement in the design of decommissioning schemes should be encouraged.

Source: OECD (2008).

Most Member States seek to use publically-funded decommissioning schemes to reduce fishing capacity in line with EU policy, especially focussing on those vessels that are old and use obsolete gear. Once sufficient vessels have been scrapped or otherwise permanently withdrawn from the fishing fleet, a common aim is to modernise the remaining vessels to improve their safety, product quality and energy efficiency.

A common characteristic of decommissioning schemes in the EU coastal Member States is that when a vessel is removed with public aid, the licence is cancelled and

not replaced. When a vessel is removed without public aid, the licence is generally re-issued but specific rules apply depending on the state of national fishing capacity and the national strategy for the redistribution of fishing effort among resource, fishing areas and gears.

However, the treatment of quota allocations has varied in decommissioning schemes: quota allocations may be decommissioned along with the vessel; shared amongst the remaining vessels; or remain with the vessel owner who can subsequently sell, lease or transfer the allocation.

Generally, when a vessel has been withdrawn from a fishery without the use of public funds, there is more flexibility in treatment of the associated rights. For example, in Belgium the kW of withdrawn vessels can be added to other vessels (kW is used to determine quota distribution, hence this effectively results in quota allocation being transferred from one vessel to another).

In the UK, FQAs have been dealt with by publically-funded decommissioning schemes differently, depending on the scheme. Usually, owners of decommissioned vessels have up to three years to decide what to do with the FQAs as they are no longer linked to vessels. They can be associated with a PO dummy licence and leased out, or transferred to another vessel. However, in past decommissioning schemes, quota has also been decommissioned with the vessel.

The way in which decommissioning schemes in Baltic states dealt with the fishing rights of decommissioned vessels is detailed in Box 10.

Box 10: Decommissioning schemes in the Baltic and their treatment of fishing rights

Estonia

There were not many applications for the decommissioning scheme in Estonia — fewer than ten vessels were scrapped. There were no special rules dealing with fishing rights of vessels leaving industry. Their quota was simply divided among the remaining vessels in the next period, under the existing rules.

Latvia

The scale of the decommissioning scheme in Latvia was larger than planned. 52 vessels were removed from the fleet register. The main rule was for fishing rights to remain within the company, which can lead to a concentration of quota. If there is no successor to the rights, the Fisheries Commission of the National Board of Fisheries can decide on the reallocation.

Lithuania

In Lithuania, fleet capacity was reduced by nearly 30 % through decommissioning. The quota of decommissioned vessels was simply divided among the remaining vessels under the general rules. The allocation was done based on historical records.

Poland

In Poland, the scale of decommissioning was quite large and almost 40 % of total fleet tonnage was removed. In the case of individual quota, the quota of decommissioned vessels was divided among the remaining vessels under general rules. In the case of block quota (small-scale fishing, herring and sprat) only the number of quota holders changed since vessels catch within the total limit controlled by the Ministry of Agriculture.

There is also evidence to indicate that in many cases, the transferability of rights can result in the reduction of capacity in the fishery (implying a concomitant concentration of rights and increase in economic efficiency) without the need for publically-funded decommissioning schemes. This has occurred, for example, in Spain's ITQ NEAFC fishery (Box 14), Denmark's ITQ and VTQ-managed fisheries (see Box 15), and Estonia's ITQ fishery (Box 38). In the latter, a publically-funded decommissioning scheme was also used to reduce capacity, although the number of vessels removed under the scheme account for only 25% of the total capacity reduction over the period 2001–2009 (Director Fishery Resources Department, *pers. comm.*).

3.2. Transfer of rights

3.2.1. Introduction

A key driver for Member States restricting transferability is to avoid the concentration of fishing rights and a particular concern over the potentially negative impact this would have on the participation of the small-scale sector. Some MS have restricted transferability with this in mind (e.g. Belgium, Ireland, France, and Germany).

Systems with transferability have often resulted in a concentration of rights, reduction in capacity and increase in economic profitability (e.g. Denmark, Spain). However, transferability does not necessarily result in the concentration of rights (e.g. Dutch beam trawl fleet has 300 rights-holders for 300 vessels, suggesting a concentration of rights has not occurred). Where the availability of quota (effort or catch) is not a limiting factor, there is also no tendency for concentration (e.g. Estonia coastal ITE fishery, Poland's block quota fishery). Furthermore, systems with transferability can have extra restrictions placed on them to limit concentration (e.g. in Sweden any one quota-holder can hold a maximum of 10% of the national quota), or to protect the participation of small-scale fishers (e.g. the quota pool system for the UK under-10 sector, or the protection of small-scale fishers in the Denmark ITQ system).

The management systems set up at Member State and Community levels that impose 'restricted' access to fishing, have implicitly resulted in allocating an economic value to the right to fish. This economic value is directly or indirectly reflected in the various market transactions taking place in the fishing industry today. Examples of this are the sale or leasing of licences, fishing days and quotas in some Member States. More indirectly, the economic value of the right to fish is reflected in the difference in market prices of vessels with and without a licence (EU COM 2006 103 final). In this way, markets in fishing rights exist in most Member States and in some cases, between Member States.

3.2.1.1. Types of transfers

Transfers of fishing rights between stakeholders within the EU take a variety of forms. Fishing rights may be permanently sold by one party to another, with a complete transfer of ownership. Fishing rights may also be leased allowing the right to be used by a party other than that which holds ownership or title to the right, with the (usually short-term) user of the right paying a rental price for the use of the right to the rights-holder. Rights may also be traded, or swapped, between two rights-holders for a given period of time. Table 1 in the Part II of this report (the Catalogue) provides information on a typology of RBM systems and fishing rights in the EU that makes it clear that some rights are intended to be transferred, while others are not.

Key characteristics that define different transfers pertain to:

- the extent to which ownership of the right is transferred indefinitely, as opposed to being used for a defined period by a party that may not be the rights-holder;
- what is being transferred i.e. the type or portion of a right (or bundle of rights that allow fish resources to be exploited); and
- which stakeholders, or parties, are transferring rights and to whom.

Table 2 describes various different types of transfers that are made possible by current markets (see Section 3.2.2) in ascending order of the level of flexibility in the choice of recipient, along with some examples of where such transfers are in existence at present. As indicated, the characteristics of transfers are in part determined by the nature of the two parties between which fishing rights may be transferred. Either in law, or in practice based on informal rules, the owners of fishing rights may face restrictions regarding to whom they can sell, trade or lease their fishing rights.

Table 2: Different types of transfers

Type of transfer	Examples of types of transfers in existence
1. Only within a PO or group assigned a right	Italy TURF (clam), Spain LL
2. Only within their own PO/group or to another PO/group in the same country	Spain ITQ NEAFC and ITQ swordfish, Spain LL, UK IQ
3. Outwith their PO/group to non-PO/group members but only in the same country	None identified
4. Outwith their PO/group but only to a PO/group in another country	Germany IQ, UK IQ
5. As an individual but only within the same country	Spain ITQ BFT, Portugal ITQ swordfish, Italy LL and IQ BFT,
6. From a PO or an individual rights holder to any party they chose, including in other countries	Malta LL (in 12-25nm zone); Ireland VC; Netherlands ITQ, Belgium LL, UK IQ, and France CQ/IQ (but all difficult in practice due to social impact safeguards); Poland IQ; Portugal ITQ NAFO, Estonia ITQ

A key aspect of what can be transferred depends on the notion of divisibility, which refers to the ability to

- divide rights more narrowly, producing new recognised rights specified perhaps by season, region, ground, species, age or other classification; and
- divide the amount of quota into smaller amounts and to transfer some quota to others.

Some rights may be specifically not transferable, such as non-transferable IQs, non-transferable IE quotas, limited non-transferable licences, TURFs and community-based catch quotas. However, even where rights are not intended by the management authorities to be formally transferable, markets may still exist (Section 3.2.1.2). For example with a non-transferable TURF, while rights may not be transferable outside of the TURF holder (usually a group or cooperative of some form) members of the group or cooperative may sell, trade or lease rights among themselves. And where a PO manages all individual vessel quotas on behalf of its members to provide greater flexibility in fishing operations and strategy for its members, rights may be sold, leased and/or swapped.

3.2.1.2. Types of markets

Markets for the transfer of rights may be characterised as being either 'formal' or 'informal'. In the case of both formal and informal systems, the ability to transfer all or part of a fishing right is a fundamental requirement for a 'market' to exist. This transferability implies some form of legal basis to the fishing right which is being leased, traded or sold. However, informal markets are in no way necessarily 'illegal'. Conversely, the fact that fishing rights are transferable does not necessarily mean that a market is in existence — for that to be the case, the rights must actually be leased, traded or sold.

While providing a clear definition of what constitutes formal and informal markets is not easy, a key difference is that informal markets fall outside of any formal regulation by the state, while formal markets involve at least some form of monitoring by the state of changes in the ownership or usage of rights, even if the State is not involved in the market mechanism *per se* for example by approving individual transfers. As such, informal markets may be less transparent in their workings, and by their nature tend to be difficult to observe, study, define, and measure, hence why they are often referred to as a 'grey' markets (the terms 'informal' and 'grey' are used interchangeably in this report).

It should also be noted that changes in regulations (and degrees of enforcement) as a result of policy evolution, may cause the transfer of rights to move between formal and informal market systems.

3.2.2. Existence of markets for rights

Drawing on the case studies of different RBM systems presented in the Catalogue, Table 3 presents a summary across EU coastal Member States of the extent to which:

- a. Markets are found to be in existence; and
- b. Markets are found to be either formal or informal.

The scale for measuring transferability used in the Catalogue suggests that a score of 0 implies that rights are not transferable, 0.1 that rights are only transferable on death/retirement, 0.25 that rights are transferable but non-divisible with limits on transferability through significant ownership restrictions (e.g. nationality), 0.5 that rights are transferable but non-divisible with some government control over the transfer market and minor limits on ownership, 0.75 that rights are transferable and divisible with some government control of the transfer market, and 1 that rights are fully transferable and fully divisible in a free transfer market. On the assumption that all fishing rights have some form of value (and offer the potential for profits to be made through exercising those rights), one would expect that wherever rights are transferable, i.e. a score of more than 0, a market should exist with rights being sold, traded, or leased. Table 3 shows that this is indeed the case, and that in all cases where rights are transferable markets are found to exist.

Interestingly, in a number of cases where the type of RBM system is of a 'non-transferable' nature (limited non-transferable licences, individual non-transferable quotas), transferability scores need not be zero, typically because licences/quota can be sold on death or retirement. This has resulted in markets evolving around the sale, transfer or lease of such rights, with vessels with attached licences being sold

for more than the pure asset value of the vessel itself (implying a value to the licence, or fishing right). Examples include markets in Denmark, Malta and Italy for limited non-transferable licences/permits. Likewise in some Baltic countries (e.g. Latvia and Lithuania), markets exist for individual non-transferable catch quotas (IQ) and individual non-transferable effort quotas (IE), because it is possible to buy companies that have quota and/or to sell or rent vessels with unused quota. In Belgium too, markets exist for limited non-transferable licences (LL), community catch quotas (CQ) and individual non-transferable quotas, with markets in existence for engine power and associated licences.

The widespread existence of markets, even for 'non-transferable' rights, means that for *all* the different types of RBM systems described, markets exist at least somewhere in the EU. This is true even of TURFs, with the clam TURFs in Italy providing an example of a situation where, while rights can not be sold *between* consortia, they can be sold/leased/traded *within* a particular consortium.

Table 3 shows that markets are generally 'formal', rather than informal. In most cases, the role of Member States is principally in overseeing markets and recording changes in ownership and/or the use of rights (e.g. through registers of owners of licences or TURFs, allocations of quota to POs or individual vessels), leaving the market to function within certain pre-defined parameters (such as restrictions on ownership by foreign nationals, limits to concentration). The generally formal nature of the markets for rights is perhaps not surprising given the widespread recognition of the need to limit access/rights to resources in some fashion, and the central role of the State in awarding such rights and imposing limits to access. The formal nature of markets is understandable in terms of quotas and all other forms of rights, given the responsibility and obligations that Member States have for recording and managing the activities of their flag vessels within the overall fisheries management system in the EU. The issue of administration and monitoring of markets, whether by the State or other parties, is discussed further in section 3.2.3.

The only informal markets that appear to exist in the case studies in the Catalogue are those associated with the markets for rights within clam consortia (TURFs) in Italy, and cases where POs manage quota on behalf of their members. In the case of PO quota management (e.g. UK, Germany, France, Denmark), while exchanges *between* POs are commonly notified to the State, POs are typically not required to notify the State of changes to quota use *within* a particular PO. This is because the obligation of the Member State is to monitor the uptake of quota for each species, and the State is thus more interested in overall quota use by each PO and potential quota overrun, and resulting triggers to initiate prohibition or controls of PO uptake⁵. Thus POs are typically only required to report on *overall* quota use by their members, not on any changes in ownership or use of rights by specific vessels within their PO that may result from the sale, lease or trade of quota. This means that the State does not necessarily record or hold all the information about who is exercising what rights.

In considering the *existence* of markets, a number of other potentially interesting subjects of research on markets for rights are evident, which are not within the scope of this study. These are discussed further in Section 4.5.3. .

⁵ POs for example may have to inform their MS weekly on quota uptake once 75% of a species' annual quota has been caught.

Table 3: Existence of formal and informal markets

Country	RBM system	Transferability Score	Markets in existence i.e. rights sold, leased or traded	Is market controlled/regulated by the state i.e. formal
Spain	LL (shellfish)	0-0.25	Yes. Licences attached to vessel, and vessels can be sold (within defined area).	Yes.
	ITQ NEAFC	0.75	Yes. Within 300 list	Yes.
	ITQ Swordfish	0.75	Yes. Within census	Yes
	ITQ BFT	0.75	Yes	Yes
	TURFs	0	No	-
Portugal	ITQ NAFO	0.9	Yes	Yes
	ITQ Swordfish	0.75	Yes	Yes
	CQ	0.5	Yes	Yes
Malta	LL	0.25	Yes. Licences attached to vessel, and vessels can be sold.	Yes
	TURFs	0	No.	-
Italy	LL	0.25	Yes. Licences attached to vessel, and vessels can be sold.	Yes
	TURFs (clams)	0.25	Yes. Trade not possible between consortia but is possible within consortia	No
	IQ BFT	0.25	Yes. Licences attached to vessel, and vessels can be sold, and unallocated quota for possible compensation (UQPC).	Yes
Slovenia	Licensing (unlimited so far)	0	No	-
UK	IQ / ITQ	0.75	Yes for in-year quota, FQA and licences	Yes, with involvement of POs
	ITE Salmon	0.75	Yes	No
	TURF (shellfish Several Orders)	0.75	Yes for 'Several Orders'	Yes
Ireland	VC	0.5	Yes for share of capacity of segment (GT and kW)	Yes
France	LL	0	No	-
	CQ & IQ	0.5	Probable/possible	Little? PO management
Netherlands	ITQ (with LL, ITE, and VC)	0.75	Yes	Yes, with involvement of POs
Belgium	LL	0.25	Yes for vessel engine power and associated licence or quota, but not for licence or quota alone	Yes
	CQ & IQ	0.25	Yes for engine power and associated licence, and quota swaps	Yes
Greece	LTL	0.25	Yes for licence	Yes
Cyprus	LL, CQ and VC	0	No as fishermen apply for licence each year	-
Denmark	ITQ (herring, mackerel)	1	Yes	Yes transfers recorded by State
	VTQ (Demersal)	0.75	Yes	Yes in case of permanent transfer of vessel, otherwise involvement of VTQ pools
	LL (blue mussel, oyster)	0.1	Yes for vessel/licence on retirement or death	Yes
Sweden	IQ / ITQ (herring) - IQ	0	Yes	Yes
	TURF (inland)	1	Yes	Yes
	TURF	0	No	-
	LL	0	No	-
Finland	TURFs	0	No for licences (but Yes for ownership of water areas)	-
	LL	0	No	-
Germany	IQ	0.5	Yes for vessel/quota on retirement or death. Also quota swaps	Yes for vessel/quota, with swaps managed by/within POs
Estonia	ITE coastal and herring	1	Yes in terms of swaps	Yes
	ITQ offshore herring, cod	1	Yes in terms of swaps	Yes
Latvia	IE coastal	0.25	Yes can sell or rent vessels with unused quota, or buy companies with quota	Yes
	IQ herring and offshore	0.25	Yes can sell or rent vessels with unused quota, or buy companies with quota	Yes
Lithuania	IQ coastal, offshore, herring and cod	0.25	Yes can sell or rent vessels with unused quota, or buy companies with quota	Yes
Poland	IQ	0.5	Yes through swaps	Yes
	Block quota	0.25	Yes through buying company with quota	Yes

3.2.3. Management tools and administrative instruments

3.2.3.1. Administration

Basic documentation and electronic record-keeping

There are various administrative systems used to document the RBM systems and keep records on swaps, leases or trades or fishing rights. These range from paper-based systems (e.g. in Estonia), to electronic databases (e.g. UK, which is developing plans for an online intranet database). Different systems also exist at different administrative levels, e.g. central government, regional government and POs.

The vessel licence underpins the system of fishing rights throughout the EU. Such licences are generally administered centrally through computerised systems. In some countries, limited licensing is still the main fishery management tool and is used to control fishing capacity (e.g. Malta, Greece, Cyprus, and Italy).

The precise arrangements vary between countries and may be extremely complicated. For instance, in Greece, the licensing of professional fishing vessels or amendment of the particulars of fishing vessels involves the regional and central departments of the Ministry of Rural Development and Food, the Ministry of Merchant Shipping, Fisheries Departments operating at Prefectural level (capital cities of Prefectures) and local Maritime Authorities. Consideration is currently being given to amending the existing institutional framework governing licensing with a view to simplifying it and, at the same time, improving the system for recording details in terms of both quality and time.

Box 11: Quota monitoring in France

Quota usage is monitored at a number of different levels in France. Each PO has an internal statistical system to monitor quota uptake. Great improvements have been made to such systems in recent years (both in terms of electronic equipment and the human capacity to operate it), enabling POs to monitor uptake in a precise and timely manner. Although some differences remain, generally speaking POs now monitor catch per individual vessel on a daily basis.

The Department of Fisheries and Aquaculture centralises the PO information and monitors quota usage throughout the year by electronic means. The information is reviewed by the Quota Monitoring Commission which is in charge of advising the Minister on catch and effort quota management. This Commission is composed of the Directorate of Marine Fisheries and Aquaculture (administration), the two federations of POs and the National Committee of Marine Fisheries and Aquaculture.

Quotas are allocated annually. The administration sends to each PO its calculation for each species with statistical details per vessel. Each PO verifies the data against its own statistics and final adjustments are made. The final document is then approved (and if necessary revised) by the Fleet and Quotas Commission.

The basic licences have various add-ons to increase the effectiveness of fisheries management and/or the quality of the fishing right. A common development is to specify the licence more fully in terms of authorised gear, fishing areas and/or fishing

period. An increasingly common option is to associate the licence with catch quotas or catch limits that are either communal (through POs) or individual.

Where rights are allocated on a territorial basis, e.g. TURF *Cofradias* in Spain, the issues are obviously somewhat different, and much of the documentation is held at the decentralised level.

With the devolution of quota responsibilities to POs, much of the administrative monitoring is now done at this level. An example is given by France (Box 11).

3.2.3.2. Monitoring of fishing right transfers

When rights are transferable (e.g. through swaps, leasing or permanent sale), an administrative authorisation is usually required (e.g. Portugal, UK, Estonia). In the case of international swaps and in the case of national swaps or quota exchanges, the exchange must at least be registered or documented by the competent administrative authorities (e.g. Portugal, UK, Estonia, and ITQ in Denmark).

The examples of UK (Box 12) and Estonia (Box 13) are illustrative of the manner in which such monitoring schemes operate.

Box 12: Administration systems to register quota trades in the UK

The majority of the offshore fishing fleet in the UK belong to POs ('sector vessels'). Vessels and POs receive fixed quota allocations (FQAs) from the Government. On an annual basis, quota is distributed according to the FQA units held. Based on the annual quota received, in-year quota swaps are allowed between vessels, POs and with other Member States.

All swaps must be cleared through the UK fisheries administrations. There had been 66 in-year swaps for 2008 up to October, and there were approximately 120 swaps in 2007. Swaps are approved if they are beneficial to the UK and do not disrupt fishing activities. It is rare that in-year swaps are disallowed, as the process is usually stopped earlier in the negotiation process (the last one was about three years ago). Before an international quota swap is finalised, the option is given to other UK POs to match the swap.

The UK fisheries administrations have a database which records all UK swaps (internal and international), called Swaptracker. It does not record lease price information, but they have a general idea of prices. The Marine and Fisheries Agency (MFA) is considering the development of an on-line intranet database to facilitate quota trading through the Quota Management Change Program (QMCP). This programme has been hindered by political issues, i.e. under-10 sector and the potential separation of Scotland from the UK's quota-management system.

Box 13: Administration systems to register quota trades in Estonia

When an Estonian company wishes to swap quota with another Estonian company, they submit an application to the Ministry of Agriculture which then checks that the companies concerned have sufficient quota to swap (i.e. that they have been allocated the quotas according to their respective three-year historic fishing rights, that they have paid the necessary fees on time and that they have not already exhausted (i.e. fished) the amount of quota that the companies wish to swap).

Once this has been checked, the Ministry makes a written (paper-based) record of the swap; in the future, the swap will also be registered electronically in the fisheries information system, and the companies can start to make use of the quota they received as a result of the swap.

If an Estonian company wishes to swap quota with a foreign company (within the EU), it also submits an application to the Ministry, which then performs the aforementioned checks and contacts the fisheries institution of the other company's country to check that they also approve of the swap. Once an approval is received, an administrative decision is made and the quota is transferred through the Fisheries Data Exchange System (FIDES) of the European Commission. Once the quota in question has been transferred to Estonia, the company can start using it (meaning that the company can now have a fishing permit issued and start fishing).

The companies can swap all of their quota for the year, or a part of it; also, one company can trade a part (or all of) their current year's quota for another company's quota in the following year — since the fishing quotas are allocated based on three-year historical rights and the national quotas, as a rule, are quite stable, the companies can trade the quota in advance. However, as the quotas for the following year are considered preliminary until fixed with an administrative decision, usually only a part of the 'future' quota is swapped. The quota swap does not affect the companies' historical fishing rights.

The above applies to the fishing carried out under a fishing vessel's fishing permit (trawlers), where the quotas are allocated as tonnes or fishing days. In coastal fisheries performed under a fisher's fishing permit, the quota is allocated as the maximum number of fishing gear (e.g. the right to fish with 10 gillnets) and such swaps are not made. Historical fishing rights for both coastal and trawl fishing can also be sold (at a notary's office), usually as a three-year package.

3.2.4. Impacts of rights markets

The CFP's original objectives were to preserve fish stocks, protect the marine environment, ensure economic viability of European fleets and provide consumers with quality food. The 2002 reform added to these objectives the sustainable use of living aquatic resources from an environmental, social and economic point of view in a balanced manner. Thus the primary objective of the new CFP is to ensure a sustainable future for the fisheries sector by guaranteeing stable incomes and jobs for fishermen while preserving the fragile balance of marine ecosystems and supplying consumers⁶.

⁶ http://www.europarl.europa.eu/facts/4_3_1_en.htm

Key elements of the reform include:

- Long-term approach to fisheries management and emergency measures if necessary, through the use of multiannual recovery and multiannual management plans;
- Reorientation of public aid to the fleet;
- Socio-economic measures to support the industry during the transition period;
- Access to waters and resources, and related restrictions until 2012 to preserve the most sensitive areas under traditional fisheries e.g. inside 12 miles, the Shetland Box;
- More effective, transparent and fair controls;
- More direct involvement of fishermen in the decisions that affect them, such as through Regional Advisory Councils (RACs);
- Accompanying measures such as Community Action Plans for regions (e.g. Mediterranean) and on key issues (e.g. discards, IUU, environmental protection).

The presence of markets for rights has the potential to impact on the environmental, economic and social objectives of the CFP in terms of patterns of distribution of fishing rights, social impacts, efficiency of fleets and resource sustainability. These potential impacts include:

- Changes in the pattern and distribution of fishing rights between fishing firms of different sizes, and between rights holders in different regions and even countries (social impacts). This could impact both positively and negatively on the stability of incomes in some areas, as well as impacting on the principal of relative stability;
- More efficient fishing firms acquiring rights from those less efficient firms resulting in overall increases in economic efficiency (economic impacts);
- Concentration of rights resulting in overall fleet capacity reduction through market mechanisms (rather than structural aid); and,
- Reduced levels of discarding and 'highgrading' impacting positively on resource sustainability (environmental impacts).

Of course, the impacts of markets for fishing rights may impact both positively and negatively on these objectives. For example, the transfer of rights from less efficient rights holders to more efficient ones may support the objective of economic efficiency and fleet rationalisation, while at the same time having negative impacts on social sustainability in some heavily fisheries-dependent regions if rights are transferred out of these regions (but see also Box 15 on the Danish ITQ system, which suggests that concentration of rights away from small-scale coastal communities need not necessarily result from transferability if appropriate limitations are put in place).

The impacts of the markets for rights are summarised in Table 4. While the information available is not sufficiently detailed to provide a consistent quantitative picture of the impacts of markets across all case studies, some general conclusions can nevertheless be made, and information from specific case studies is presented in Box 14, Box 15 and Box 16 below.

Examples with a low transferability rating may be expected to show less potential for markets to negatively impact on some social aspects while positively impacting on others. The tables above suggest that this is indeed the case. However, the tables also show that there is very little hard evidence of markets for rights having impacted either positively or negatively on social sustainability in coastal fishing communities.

The reason for this dearth of information is because of the lack of knowledge on both the *extent* of the markets for different types of rights across Member States (one of the research topics suggested for further study in Section 4.5.3), and their impacts. So while some information is available on regional dependency on fisheries such as that contained in a recent report published by the European Parliament (P. Salz/Framian and G. Macfadyen/Poseidon, 2007⁷), the extent to which any change over time in regional dependency factors is due to the market for fishing rights, as opposed to other factors, is not clear. Equally this means that any impacts of markets for rights in terms of conflicts with fishing customs and distribution principles are not clear.

While concentration of rights may have positive economic impacts, it may be also associated with negative social impacts. In a previous survey of around 400 UK fishers (reported in Hatcher *et al.*, 2002), the majority wanted quota 'ownership' restricted to active fishers, and concern about the possible effects of ITQs on the regional or sectoral concentration of UK fishing activity was expressed by around two-thirds of the sector with even greater numbers of those interviewed concerned about the possible implications for new entrants to the industry.

What is clear is that market for rights have resulted in the value of rights significantly rising in many cases. Rising prices for rights on the market can significantly impact on the ability of 'new entrants' to obtain rights to fish. In the UK for example, gaining entry to the offshore fisheries by buying quota through a PO may be far too expensive for most new operators — a Peterhead 24m vessel could cost €400,000–550,000, but when the cost of licences, quota and other associated rights are included, that figure can rise about 10 times. Likewise in Spain, the value of licences for bivalve dredges in Spain increased from €130,000 to €500,000 over the period 1996–2002.

One example of the social impacts of markets in terms of rights moving between regions has been documented in some detail in the case of Spanish ITQs in NEAFC (see Box 14). But in many countries, the case studies in the Catalogue suggest that the social impacts of markets are likely to be limited due to factors constraining the free transferability of rights, specifically with the intention to protect historical distribution patterns. These factors typically include a potential new rights-holder having to be a member of a local organisation or to demonstrate some form of economic linkage with a region (e.g. any foreign-owned vessels flagged in the UK and fishing with UK quota), or some form of socio-economic criteria being used to allocate sub-quota (e.g. France). Or in the case of TURFs, rights can generally only be traded, if at all, within the organisation or group that is granted the right.

With respect to impacts on resource sustainability, again, there is little hard evidence of the impacts of *markets* (as opposed to the impacts of RBM systems) on environmental sustainability. However, as noted by Hatcher *et al.* (2002), markets for quota allow fishers the flexibility to resolve problems relating to quotas held by a vessel being out of proportion to the mix of species on the grounds, which in turn reduces the need to discard. Certainly the ability of POs, for example in the UK and France, to manage quota held by their members is likely to be having positive impacts in terms of reducing both over-quota landings and discards (in the UK 95% of the national quota is managed through POs with only 5% being managed by the fisheries agencies).

⁷ The study analyses and presents statistical data on the regional (NUTS-2 level) role and importance of the fisheries sector and its four sub-sectors – fishing, fish processing, aquaculture and ancillary activities, in terms of creation of income and maintenance of employment, and dependency of the regional economies on the fisheries sector. The study also estimates the role and importance of TAC species for the national and regional fishing fleets

Table 4: Impacts of markets for rights on CFP objectives

Country	RBM system	Social	Relative stability / Potential for rights to be sold to other MS	Resource sustainability	Concentration and economic efficiency
Spain	LL (shellfish)	Positive. Restricts part-timers and external interests, in favour of full-time local interests, although decrease in overall employment.	None	Positive. New PERMEX for on-foot harvesting are issued only after an evaluation by cofradias and its technicians on the state of the resource. No discards or high-grading	Some possible, but limited by area restrictions. Concentration occurred when part-timers excluded.
	ITQ NEAFC	Positive for Galicia. Negative for other regions	None. Can only be transferred between 300 list vessels	No impacts of market on discards/high grading per se	Yes. Galician fleet of the PO ANASOL has 45% of rights. Basque fleet reduced
	ITQ Swordfish	No particular impacts	None. Can only be transferred between census vessels	None. Selective fishery	Potential as no restrictions, but none reported
	ITQ BFT	No particular impacts	None. Only transferable within national fleet	Not known	Potential as no restrictions, but none reported
	TURFs	-	-	-	-
Portugal	ITQ NAFO	Potential, but unlikely. Quota can be traded to other MS in return for other species	None. Quota can be traded to other MS, but in return for other species	Not known	Possible as no restrictions but not documented
	ITQ Swordfish	Possible if vessels on original census are from different regions	None. Only transferable within national fleet	Not known	Possible as no restrictions but not documented
	CQ	Potential, if quota moved between Pos	None. Only transferable within national fleet	Not known but potentially positive	None. Common pool rights for the members of the PO
Malta	LL	Potential but unlikely to be extensive	Potential. Nationals of other Member States may have special access to the 12–25 nm area of the Maltese FMZ	No impacts of market for vessels/licences per se	Possible as no restrictions but not documented
	TURFs	-	-	-	-
Italy	LL	Potential but unlikely to be extensive	None. Only transferable within national fleet	No impacts of market for vessels/licences per se	Possible as no restrictions but not documented
	TURFs (clams)	Positive. Protection of rights within areas	None. Only transferable within national fleet	None from market within TURFs	Possible within TURF areas?
	IQ BFT	Potential but unlikely to be extensive	None. Only transferable within national fleet	No impacts of market for vessels/licences per se	Possible as no restrictions but not documented
Slovenia	Licensing (unlimited so far)	-	-	-	-
UK	IQ / ITQ	Potential but reduced by requirement for foreign vessels to have economic link	Potential but unlikely	Positive. PO management reduces overquota landings	Possible as no restrictions but not documented
	ITE Salmon	None known	Potential but unlikely	None known	None known
	TURF (Shellfish Several Orders)	Positive. Several Orders tend to be owned by local fishers, sometimes as co-operatives	None	Positive. Some self-regulation of days	Yes, as Several Orders on most productive grounds
Ireland	VC	None known	Potential. Nationals of other Member States may buy capacity	No evidence	Possible as no restrictions but not documented
France	LL	-	-	-	-
	CQ & IQ	Limited. Potentially negative impacts minimised through socio-economic criteria used to allocated sub-quota	Possible, but very difficult in practice and even more difficult since the 2007 modification of quota repartition rules	Positive. PO rules are set in order to diminish discards and over-fishing of quotas	Limited, with controls in place
Netherlands	ITQ (with LL, ITE, and VC)	None	Possible, but very difficult in practice	No impacts of market per se	Yes. Dutch demersal North Sea fleet decreased by 32% between 1983 and 1998 and some evidence of increased economic efficiency.

Cont.

Country	RBM system	Social	Relative stability / Potential for rights to be sold to other MS	Resource sustainability	Concentration and economic efficiency
Belgium	LL	None due to limits on transferability	Possible but limited in practice because of the need to prove genuine economic link	Yes. Quota swaps may reduce discards	None reported
	CQ & IQ	None due to limits on transferability	Possible but limited in practice because of the need to prove genuine economic link	Yes. Quota swaps may reduce discards	None reported
Greece	LTL	None	Possible but unlikely due to need to be member of local organisation	None	Possible , but no significant impacts reported due to owner/operator predominance
Cyprus	LL, CQ and VC	-	-	-	-
Denmark	ITQ (herring, mackerel)	Possible , but not documented	None	Possible , but not documented	Yes. 50% reduction in the number of vessels holding herring and mackerel quotas and a significant and still ongoing modernisation of the Danish pelagic fishing fleet
	VTQ (Demersal)	Possible , but not documented	None	Possible , but not documented	Yes. 25% reduction in last 18 months
	LL (blue mussel, oyster)	Potential but unlikely to be extensive	None	None from market itself, although LL introduced with resource sustainability in mind	None
Sweden	IQ / ITQ (herring) - IQ	Too early to assess	Very unlikely	Too early to assess	Possible , but individual quota ownership maximum of 10% of the total Swedish quota
	TURF (inland)	None	None	Not known	None
	TURF	-	-	-	-
Finland	LL	-	-	-	-
	TURFs	None	None	Not known	None
Germany	LL	None	None	None	None
	IQ	None	None , although quota can be swapped with other MS	None of market for vessels/quota per se	Possible by limited given limitations on transferability
Estonia	ITE coastal and herring	None recorded	None	May be negative through discarding?	Possible but not recorded
	ITQ offshore herring, cod	None recorded	None	Not known	Possible but not recorded
Latvia	IE coastal	None recorded	None	Perhaps positive with larger quota per vessel	Yes , with some positive economic results
	IQ herring and offshore	None recorded	None	Perhaps positive with larger quota per vessel	Yes , with some positive economic results
Lithuania	IQ coastal, offshore, herring and cod	None recorded	None	Not known	Not known
Poland	IQ	None recorded	None although are some swaps to the MS	Not known	
	Block quota	None recorded	None through restrictions on foreign ownership	Not known	None

Potential effects markets for rights on discards are difficult to determine, as discards may be influenced by a range of factors, including undersized or unmarketable fish, highgrading and lack of quota allocation. However, where discarding occurs due to a lack of quota for a particular species, transferability of quota rights enables vessels and POs to optimise their species mix to reduce discards. Even with non-transferable rights, this optimisation can be carried out at national level through Member State-to-Member State quota swaps to ensure an appropriate species mix. Discards are discussed further in section 2.1.5 in the Catalogue.

Box 14: Impacts of the market for rights in Spain

The implementation of ITQs in the Spanish NEAFC fleet has resulted in a concentration of the rights to fish, a reduction in number of vessels and capacity of the fleet, and a regional shift in the fleet location — from the Basque region, to being dominated by the Galician fleet. In 1996, Galicia held 53% of the fleet whilst the Basque region held 47%. By 2006, these values had changed to 74% and 22% respectively. A decrease in the percentage of Great Sole area fishing rights which were held in the Basque region was also observed, declining from 55.8% in 1997 to 39.7% in 2003. The opposite was observed in Galicia, where the percentage of fishing rights increased from 44.2% in 1997 to 55.9% in 2003. Both regions underwent a concentration of fishing rights, demonstrated by the observed evolution of fishing rights per vessel: in the Basque region from 0.79 in 1997 to 0.92 in 2003, and in Galicia from 0.54 to 0.65 (Tables 1 & 2).

Table 1: Evolution of the percentage of fishing rights Spanish associations own in Great Sole

	1996	2003
Basque	55.8	39.7
Cantabria	N/A	4.43
Galicia	44.2	55.9
Total	100	100

Table 2: Evolution of fishing rights per vessel Spanish associations has in Great Sole

	1996	2003
Basque	0.789	0.921
Cantabria	N/A	0.804
Galicia	0.541	0.654

*N/A = not available. Figures adapted from: Laxe, 2006.

Source: Laxe (2006) & Miguez et al. (2008)

Allowing the market to allocate quota among vessels also maximises the economic profits from quota use (Hatcher *et al.*, 2002). The principal economic argument for fully transferable rights such as ITQs is that 'the market will result in an efficient allocation of quota whereas other mechanisms for allocating quota are very unlikely to do so. The efficient allocation is the allocation which maximises industry profits given the total supply of quota.' Although strong enforcement of fixed quotas (as opposed to tradable ones) would result in some downward pressure on overcapacity in the fleet, quota trading should also greatly assist a rationalisation of fleet capacity. 'Under an ITQ system, because quota can be traded and acquires considerable value (according to the profits that can be earned from it) an adjustment of industry capacity to the overall availability of quota will be facilitated. Some vessels will increase their quota holdings in order to operate more efficiently while inefficient vessels are more likely to exit since they will be compensated to the value of the quota they sell.' This was the case in Denmark (see Box 15).

Box 32 compares the outcomes of two quota-based RBM systems operating on beam trawl fleets in the North Sea. One (Netherlands) includes transferability while the other (Belgium) does not. Detecting differences in outcome in terms of stock status, however, is not possible since both fleets target resources that are depleted and currently under a recovery plan.

Box 15: Impacts of the market for rights in Denmark

In January 2007, Denmark began a system of VTQs, where national quotas are divided among the fleet and can be traded or pooled between vessels. Contrary to perceptions about transferability and markets necessarily disadvantaging small-scale fisheries and highly dependent regions, Danish authorities suggest that in the case of demersal fisheries, changes do not reflect any pattern in terms of large/small vessel owners or harbours, but rather just differing abilities and attitudes towards the new system, and fishing rights have actually been traded into the coastal (small-scale) segment. For example Esbjerg, once one of the very big harbours, has lost significant amounts of rights, while Thorupstrand — where they fish from the beach — is one of the most successful.

The VTQ system also appears to have had significant impacts on rationalisation of the fleet, with effective capacity in the demersal fleet reduced by more than 30 % since January 1st 2007 (based on active vessels) (Directorate of Fisheries, *pers. comm.*), and potentially positive impacts on resource sustainability with fewer vessels reducing effort and with fishermen trading and swapping rights to ensure that catches can be landed rather than discarded. Preliminary data also suggest that vessel profitability (average across all fleet segments) in 2007 was 16%, against an average of 9% in the previous three years (Institute of Food Economics, 2008). In the pelagic fleet there has also been a strong structural change towards fewer, larger, newer vessels.

The move away from public money being allocated for scrapping of vessels (instead leaving it to the market) has allowed for funds to be used for innovation and investment in quality and new products instead, with the effect that the amount of fish caught not only requires less capital input, but also yields higher prices. The ITQ system has not changed the fact that quota must be fished by a Danish-registered vessel, and Denmark still has national rules requiring nationality, a permanent stay in Denmark of at least two years, or a clear economic link to Denmark to be proven.

Source: Pers. Comm. Mogens Schou, Minister's adviser on fisheries and aquaculture; and Jesper Andersen at Food and Resource Economics.

One of the objectives of the CFP reform was to increase the ability of fishers to be involved in management decision making e.g. through RACs. The presence of markets also supports this objective of greater involvement of fishers in decision making, as it provides for greater involvement by rights-holders in decisions about whether to use, sell, trade, or lease rights so as to gain maximum advantage from the rights they hold.

In cases where markets result in rights being transferred from one country to another, there may be the potential for markets for rights to impact on the principle of relative stability. Relative stability is the system whereby Member States are consistently allocated the same proportion of 130 stocks, based on historic fishing activities. The intended objective of the principle of relative stability is to ensure the balance of the benefits of rights *among* Member States in terms of quota allocations remains constant over time, even if the total benefits from fishing may rise or fall with TAC increases or decreases.

Box 16: Potential impacts of the market for rights in the UK

Out of 6,300 registered fishing vessels in the UK (in 2006), there are currently 58 Dutch and Spanish (and a few Icelandic) vessels fishing with UK quota, with 28 of them fishing in Scotland. The proportion of foreign ownership is more of an issue in Scotland than England/Wales due to the different structure of the fleet and generally higher importance of fishing to local communities. 70% of the total quota allocated to the UK is managed in Scottish fisheries, accounting for approximately two-thirds of the landings. The Scottish fleet is particularly reliant on a small number of quota species with many small family based partnerships, and the Scottish government is particularly concerned about quota being owned by overseas interests, and is opposed to a full ITQ system due to the possible ramifications for coastal communities in terms of foreign ownership and the concentration of rights. Instead they believe in keeping fishing rights as close as possible to the people actually fishing, and their proposals for a quota management system for the Scottish fleet (independent of England and Wales) would reserve the right for the government to intervene in rights distribution (subject to a notification period) if rights were not being fished (Scottish Government, 2008).

Source: Pers. Comm. Jim Watson, head of sea fisheries quota management policy section, Scottish Government

As can be seen from Table 2 above, in terms of the case studies provided in the Catalogue, rights can be transferred to other countries from rights-holders in Portugal (ITQ NAFO), Germany (IQ), and Poland IQ (see Box 17). In the UK, out of 6,300 registered fishing vessels (in 2006), there were 58 Dutch and Spanish (and a few Icelandic) beneficially-owned vessels fishing with UK quota, with 28 of them fishing in Scotland. It is also possible in France, the Netherlands, Belgium, for quota to be transferred to other Member States, although this is less likely due to various restrictions such as the use of socio-economic criteria to allocate sub-quota, and/or the need to demonstrate economic linkages. Many Member States also take part in Member State-to-Member State quota swaps in order to optimise the quota mix available for their fleets' requirements. However, markets for rights have no impact on relative stability *per se* because quotas to each Member State for particular species are allocated based on a set percentage of the TAC each year.

Markets for rights do have the potential to impact on the *principle* of relative stability in terms of a constant share of benefits between Member States, if market transactions for rights are not 'fair', thus resulting in an asymmetrical generation of benefits.

Market transactions may be asymmetrical in terms of benefits for example if one rights' holder, PO or fisheries authority pays over the market price (whether in terms of a direct money exchange or a swap of quota) for one species because of the need to obtain quota for that species in order to be able to fully utilise a quota for another species in a mixed fishery, or just through poor quota management on the part of the institutions involved.

If market exchanges (in the form of quota transfer) are based on cod equivalents⁸ this may also result in unequal benefits because of changes in the market value of other species compared to cod since cod equivalents were first introduced⁹. This is an issue with respect to exchanges of fishing opportunities provided by EU fisheries agreements with third countries in northern waters. The European Union engages in four sets of balanced quota exchanges with third countries under these agreements. These correspond to the transfer of quotas under the:

- EU–Norway Fisheries Agreement;
- Norway–Sweden Fisheries Agreement;
- EU–Faroe Islands Fisheries Agreement;
- EU–Iceland Fisheries Agreement.

The basis of the exchange is set out in the annual agreed records in which the parties negotiate an exchange of fishing opportunities. The parties apply a system of cod equivalents as a measure of the relative values of the fishing opportunities for the different species. Under the agreements, quota received by the EC based on cod equivalents is shared between Member States. These exchanges, and the different market values of the different species received by individual Member States, mean that the actual benefits to Member States received from these exchanges may differ from year to year. Member States may also swap fish provided to the EC under the agreements between themselves. The cod equivalents thus have an impact on the relative benefits of the agreements accruing to both the EC and to the third countries¹⁰.

The transfer of quota under the northern agreements represents a market for fishing rights. Box 18 provides some information on the impacts of this ‘market’, in terms of the resulting benefits.

Box 17: Quota swaps in Poland’s offshore fleet

One of the Polish POs, the North Atlantic Producers Organisation (PAOP Ltd) operates in the NW and NE Atlantic (NAFO, NEAFC and Svalbard areas). The PO controls the majority of Polish fisheries rights in those areas. In addition to this, individual agreements between members of PAOP and other companies are used to obtain more quota to optimise fishing possibilities and profitability. All of these transfers are carried out in compliance with the law of other vessels’ flags. These transfers are temporary leasing-type arrangements, and the permanent rights remain with the third country. The Polish authorities register these transfers in their administrative system, but have no right to claim the fishing rights in the future. Each quota transfer is carried out as an individual case.

In 2007, the total Polish TAC for the north Atlantic was 5,600 tonnes, but through exchange of quotas for different species, the PAOP vessels were able to catch 18,000 tonnes.

⁸ Cod equivalents relate to the weight and relative value of different species relative to cod. Each year cod equivalents are set by regulation and the total allocation of allocation and transfer of quota between vessels are calculated in cod equivalents.

⁹ Cod equivalents are not adjusted to reflect changes in market values.

¹⁰ Note that the extent of uptake of quota opportunities provided for under the agreements is probably of greater importance in terms of the resulting benefits to the EU Member States and the third countries than the cod equivalents.

Box 18: The impacts of transfer quotas under the EU Fisheries Partnership Agreements with Norway, Faroe Islands and Iceland, and under the Norway–Sweden agreement

Over the period 2003–2005, the transfers of quotas between the EU and third countries under the northern fisheries agreements represented annual catch revenues valued at more than €150 million. Generally, the agreements tend to provide additional pelagic quota to third countries, and additional demersal quota to EU Member States. The agreements, and the ‘market’ in terms of quota transfers, provide for positive impacts in terms of joint management responsibilities for shared stocks, and significant social and economic benefits to all parties that would not occur if quota was not swapped at all.

Overall, for the EU Member States participating in the Agreements, the Agreements contributed some 2.5 % of the national fisheries revenues. Denmark is considered to be the most dependent, with some 8 % of fishery sector revenues (€29 million) derived from the EU–Norway and EU–Faroe Islands Agreements. Germany and Portugal are also relatively highly dependent on the exchanges, with revenues corresponding to 4.8 % and 4.5 % of national fishery sector income. The UK is dependent on the Agreements for 3.5 % of fishery sector revenues and Spain and France 1.7 % and 1.5 % respectively. In other EU Member States, the fishery sectors have dependencies of less than 1 % on the Agreements. Within the EU, Danish vessels derived some 29.3 % of the revenues generated by the Agreements, and the UK 24.0 %, hardly surprising considering that they both have fishing zones contiguous with Norway, and in the case of the UK, with Faroe Islands. Other significant EU stakeholders in the Agreements are France (12.2 %), Germany (10.5 %), Spain (10.6 %) and Portugal (9.3 %). Of the third countries, Faroe Islands is the most dependent on transfers under their Agreement with the EU, which accounts for 3.7 % of fishery sector income. The Norwegian fleet derives an estimated 2.5 % of income from the Agreement with the EU. The EU–Iceland Agreement has little relevance for the Icelandic fleets, accounting for just 0.3 % of landing values.

Source: Based on Eurostat catch data 2003 to 2005 and nominal unit catch values for demersal, pelagic and shrimp fisheries

3.3. Institutional aspects of RBM systems

The introduction and implementation of RBM systems in fisheries management involves fisheries institutions¹¹ at many different administrative levels, ranging from line ministries, decentralised and regional government authorities, to private organisations, associations and user groups. The organisational set-up differs from country to country and from one RBM system to the next. In the following sections the types of institutions involved are presented including their role in the distribution of rights to primary users (and others), the day-to-day utilisation of such rights, and the shouldering of the fisheries management costs (administration, enforcement and research). An overview of the institutions and their roles, by country and RBM system, is shown in Annex 2.

¹¹ The definition of ‘institution’ can include organisations, legal frameworks, codes of conduct, norms of behaviour etc. In this text the word institution is here used in the narrow sense of ‘organisations’ involved in fisheries management.

3.3.1. Institutions involved in RBM

3.3.1.1. Government authorities (central, regional and local levels)

In all the EU Member States where RBM systems exist, the government authorities at the central level are involved in some way. Their involvement varies among Member States, from dealing with RBM administrative matters at the legislative and overall regulatory level down to regulation at the operational level. Matters at the regulatory level include the overall functioning of the RBM system(s), the initial allocation of rights (quotas, days-at-sea or other entitlements) to the primary producers, groups of producers, or to lower level authorities who are mandated to make further allocation of rights and set up regulations at regional or local levels. Matters at the operational level include the control of timing, technology, purpose and quantity of fishing.

Generally, national government authorities play a role in the various levels. However, in some cases, the line ministries are only involved at the higher administrative level, such as in Germany and Finland. Here the detailed allocation of rights as well as the operational regulation and enforcement is left with the *Länder* (federal states) and the 'Fishery District' authorities respectively. In Spain, the central government is in charge of the management of fisheries from 3–12 nautical miles, but management of fishing activities in waters up to 3 nautical miles is decentralised to the Autonomous Communities (AC).

Government intervention in the fisheries sector, for example in the form of subsidies, may serve to modify the outcomes of RBM systems. Cox (2003) has reviewed the impacts of subsidies on various management regimes, including those involving property rights. Cox concludes that subsidies in rights-based regimes represent a transfer from taxpayers to the holders of the rights, with the value of the rights increasing as a result. Subsidies that support less efficient operators can also act counter to influences in RBM systems that would otherwise tend to reduce fishing capacity.

3.3.1.2. Private organisations

Private organisations include POs, business associations such as fishermen's associations and groups of rights holders. Such private organisations may have only limited functions, or they may have multiple responsibilities and tasks.

Producer Organisations are volunteer associations of fishers. They originate from the EU common organisations of the market. They were first introduced as a formal concept in the management and organisation of EU fisheries in 1970. Regulations on POs have been regularly amended, most recently in 2000 (EC Reg 104/2000). The original role of POs was to balance demand and supply in the EU first hand fish market, such as by the application of a minimum price scheme based on intervention, the planning and coordination of the fishing activities of the PO members, and the marketing of their fish products.

The roles that POs have taken on in relation to distribution and utilisation of the fishing rights of their members varies from country to country and from PO to PO. In Denmark for example the POs are traditionally only involved with the management of minimum price schemes, whereas in countries such as UK, Spain and France, the POs are also involved with the distribution of fishing rights and the management of

fishing activities. Examples are given in Box 11 (France), Box 19 (Italy) and Box 20 (Spain). The European Council has encouraged the use of POs to manage quotas since the 1992 EU regulations (CE 3759/92).

Box 19: POs and management of IQs in Italy

In Italy, the management of bluefin tuna (BFT) begins with ICCAT, which is the scientific and management authority that establishes the global TAC for the Eastern Atlantic and Mediterranean, as well as the country (or region such as EU) allocation. The EU is allocated a TAC, and subsequently allocates a share to Member States. The Italian government receives its quota share and in turn allocates shares to boat-owners/POs of fleet segments such as seiners, long-liners, recreational fisheries, traps and an unclassified quota for possible allocation (UQPA).

Once rights are allocated to sectors, POs play the role of allocating rights to members and monitoring quota uptake. BFT fishing fits with the GLS (Generalised Licensing Scheme) thus licences last eight years. However, the right to fish depends on catch history, and a right that is not used could be withdrawn by the PO. POs are not allowed to exchange rights among them. Entry of newcomers is possible if they buy a vessel in one of the above-mentioned tuna sectors. Membership of a PO is not compulsory but if a newcomer decides to become a PO member he has to abide by the PO rules. Quotas are allocated to Italian vessels only.

The POs do not exert management in the sense of establishing closed seasons, technical measures or stock assessment. The sole role of the POs in relation to quota management is distribution of individual shares to members.

Box 20: Role of POs in quota management in Spanish demersal fisheries in Grand Sole

The management of Spanish shares for hake, angler fish, megrim and nephrops in NEAFC (ICES areas Vb, VI, VII and VIII a,b,d,e) is an example of greater flexibility in quota management. Unlike the case of POs in France and UK, Spanish POs do not necessarily receive a quota allocation directly from the government. Individual quotas can be allocated directly to boat owners and then they can choose to manage their quotas through a given PO or individually. In addition, a boat owner can manage his quotas through a larger PO that has a greater ability to manage rights (e.g. PO Lugo manages its rights through ANASOL). Transfer of rights between POs is also allowed. Transfer is allowed between different regions, although the Autonomous Communities (ACs) concerned and the central government must be notified. Geographical transferability has allowed the re-structuring of the rights configuration and fleet structure between the main ACs concerned: Galicia and the Basque Country. Transferability among ACs may have been the cause of the current dominance of Galician organisations. Indeed, ANASOL currently holds 45% of national rights and 50% of vessels in these fisheries.

Thus it seems that management of the rights in these waters is flexible in addition to being transferable. POs do not have such a key role in quota management as in other Member States. However, they do offer a good optional platform to manage rights. In 2007, for example, boat owners belonging to ANASOL decided to pool their individual rights in areas VI and VII (Grand Sole).

POs also play a key role in introducing technical measures into fisheries that subsequently can be imposed on other POs and to individual quota holders. A good

example is that of the megrim fishery for the Spanish demersal fleet in Grand Sole. In late 2007, the PO-4 of Galicia imposed a limit of 2,500 kilograms of megrim (20–25 cm) per trip per vessel to associated vessels landing in the ports of Vigo and Marin. Since PO-4 in Galicia is a representative PO, the rules can be applied to other POs, in accordance with Council Regulation 104/2000 and Commission Regulation 1886/2000. Consequently, in April 2008 the government extended the aforementioned restrictions to other POs' members (beyond the PO-4) (ORDEN APA/985/2008).

Fishers' Associations exist in all EU Member States and may be established under a variety of legal structures. In some countries they are established within a nested system with local associations in each fishing community at the bottom and the national association at the top. Their involvement in fisheries management including RBM varies from country to country. In Denmark the Fishers' Association was instrumental in the establishment and design of the VTQ system applied since 2007, but it is not involved with the management of the system — that is the responsibility of the national authorities in cooperation with 'Quota pool groups', established in addition to the associations, or of individual rights-holders. Nevertheless, the associations (especially at the local level) facilitate transfers of effort rights among Danish fishing vessels under the days-at-sea regulations.

Groups of rights holders can also take many different forms in the EU Member States. Examples range from single task professional groups with or without a local community base such as the 'Biesheuvel Groups' in the Netherlands (Box 25) and the above-mentioned 'Quota pool groups' in Denmark, to multi-tasked community-based groups such as the Spanish *Cofradias* and the women's associations involved in shellfish gathering in Galicia, Spain.

3.3.1.3. Co-management organisations

In recent years there has been an increasing interest in many EU countries in devolving some fisheries management responsibilities from central authorities to local co-management organisations. Such organisations comprise various groups of stakeholders, including fishermen, local authorities and researchers, which are given the mandate to manage the fisheries at the local level. Sweden provides an example of where various forms of fisheries co-management are being systematically tested (Box 21).

It should be noted that co-management may take various forms from 'consultative' arrangements where government authorities take management advice from industry and possibly other stakeholder associations through more or less formalised 'committees', to 'executive' arrangements where the decision-making powers on primarily operational matters are transferred to co-management groups. Co-management arrangements of the first type are common in the EU Member States and most often legally established. Co-management arrangements of the second type are rarely legally formalised, but *de facto* recognised. The Swedish experiments mentioned and the *Cofradias* in Spain (Box 22) and the *Bisheuvel* groups in the Netherlands also represent different forms of fisheries co-management. The *Bisheuvel* groups in the Netherlands (Box 25) are a system of limited participation and devolution, a form of decentralised monitoring and surveillance for the single objective of quota management. The arrangement seems to provide benefits to the fishers, hence their willingness to participate.

Box 21: Swedish experiments in co-management

Through the Co-management Initiative (samförvaltningsinitiativet), the Swedish Board of Fisheries is trying to empower local fishers with rights to manage their own fisheries. Three different RBM systems are being used, two representing TURFs and one involving limited licensing:

1. Shrimp fisheries in the Koster/Vädarö area (West coast of Sweden, ICES IIIa) (TURF);
2. Shrimp fisheries in the Gullmarsfjorden (West coast of Sweden, ICES IIIa) (TURF);
3. Vendace fishery in the Bay of Bothnia (ICES IIIId) (Limited Licensing).

The Koster/Väderö fishery is in principle open access for everyone who holds a fishing licence and complying with the rules and regulations adopted. The co-management set-up is heading towards restricted entry through restrictions on fishing gears and requirements for training (a proposal that all fishers have to attend a training course in marine ecology is in the process of being codified).

The Gullmarsfjord was made a marine protected area (MPA) in 1983. In 2003, six fishers were granted a special multi-annual 100 days/year trawl permit (Limited Licence) based on historic records. In the informal co-management arrangement established, the fishers have themselves adopted gear restrictions to avoid catching undersized shrimp and local management (allocation) of fishing days to avoid crowding and early closure of the fishery. These management measures have accomplished increased cost-effectiveness and comparatively higher product prices.

The vendace (roe) fishery was centrally managed until 1999 with limited success. In 2000 it became a Limited Licence fishery where 20 local pair-trawl teams on the basis of historic records are given exclusive rights to fish inside the archipelago where the vendace schools. Within the informal co-management system established, as an alternative to pending central regulation to protect the resources, gear restrictions and time closures have been introduced with positive impacts on both vendace catches and stocks.

Box 22: Institutions and Spanish TURF shellfish fisheries in Galicia

The Galician shellfish gathering case is an illustrative example of the roles of institutions in the management of coastal resources in Spain. Moreover, it shows how the design and implementation of policies can accompany traditional rights to improve resource status and social welfare of the people involved.

On-foot shellfish gathering is a highly important economic activity for Galician fishing communities. It generates income, supports complementary fishing activities and processing, and utilises technologies that are environmentally friendly. It is an important source of employment for women, who make up 90 % of the 5,700 on-foot shellfish gatherers. The activity takes place along 1,200 km of coast comprising the Rias Baixas, the Artabrian Arch and the Cantabrian coast. Both vessel-based and on-foot shellfish gathering are managed by the 62 Galician *Cofradías* (Molares & Freire, 2003), an ancient institution with historical rights of access to a given territory. TURFs are not allocated to *Cofradías*, but are recognised by authorities, law and civil society. New *Cofradías* can be established, providing they include 40% of the active fishers in a given area. Even though Spanish legislation recognises rights and

establishes duties for *Cofradias* and imposes certain rules for their management, *Cofradias* are autonomous institutions and have the power to impose restrictions on technical measures and to legally defend their territory.

Cofradias accept both crew members and vessel owners as members. New entrants are allowed, but they must become a member and abide by the *Cofradias*' rules. It also depends on an assessment by the *Cofradias*' technicians on resource availability and excludes those that do not attempt to make their living from the activity (i.e. part-timers). Obtaining a licence also requires attendance at courses. *Cofradias* allow the establishment of internal bodies, such as women's associations, which defend professional and economic interests of their sector and collaborate with *Cofradias* in the design of Exploitation Plans.

Management is carried out at three levels. Firstly the shell-fishing associations and *Cofradias* manage a given area. These institutions establish technical measures, monitor the state of the resources with the aid of the *Cofradias*' technicians, organise daily work, organise courses seeking to improve technical skills and manage the activity through the Annual Exploitation Plans. Secondly, the Directorate of Fisheries, Shellfishing and Aquaculture ('*la Conseilleria*'), the branch of the Autonomous Community (AC) devoted to fishing and aquaculture activities, draws up the policy for shellfish gathering and promotes participation of the associations and *Cofradias* in the policy and decision-making process. Finally the Spanish state plays an indirect role in the management of the activity with regard to social security issues, environment and management of harbours and coasts.

La Conseilleria has introduced several measures that have brought about good results for the full-time shellfish gatherers and the resource, including a licensing system, requirement to register with Social Security and to demonstrate a minimum number of days and catches per week. This excluded part-timers and resulted in a reduction in the number of shellfish gatherers. It is considered to have improved resource status, increased wages and enhanced product quality, which in turn has resulted in a rise in value (Mahou-Lago, 2006).

3.3.2. The roles of institutions

3.3.2.1. Distribution of rights

The documentation on the roles of institutions involved with RBM show no particular pattern between RBM system and institutional structure in terms of the distribution of rights and the devolution of distributive decision powers. In quota regimes, whether transferable or not, or whether output- or input-oriented, the allocation of rights to individual users is decided at central or federal level in all EU Member States. This also applies to most Limited Licence schemes irrespective of their specific purpose.

However, there are some examples of sub-allocation of fishing rights to individuals being devolved to organisations at a lower administrative level such as POs. Examples include Spain, Portugal, Italy, France (see Box 23) and UK.

TURFs are most often managed at the community level, including the distribution of the rights among local fishers (except private property TURFs). This implies that the right of allocating resource withdrawal and deciding on the associated terms and conditions are left with community organisations (often within a nationally-set

regulatory framework), although initial establishment of such systems was often governed at central level. *Cofradias* in Spain (Box 22) provide an illustrative example of a long-established TURF regime in which the *Cofradias* manage the distribution of rights within certain parameters set at national level (e.g. licence holders must be full-time shellfishers). In the dolphinfish fishery in Malta, rights are distributed by central government through lotteries, and the clam consortia in Italy, established initially by removing excess capacity through decommissioning, have moved from a restricted decision-making role within a regulatory framework, to a self-management arrangement.

Box 23: Role of POs in quota distribution in France

The evolution of quota management by POs started in the 1960s with the FROM and its management of North Sea herring. This was an informal management and only comprised the monitoring of quota uptake. In 1990, the Ministry formally delegated quota management to POs for flounder, sole, cod, whiting, Pollock, herring and mackerel.

The general philosophy of the devolution of management responsibility is optimal quota use for the benefit of the entire fishing fleet and preserving flexibility of fishing strategies. A quota is allocated to POs only if more than 70% of the quota was caught the previous year; if not, the quota is jointly fished by all POs and statistical records of landings are kept in case of future sharing. Quota sharing between POs are pro-rata'd on the basis of the average landings from the three previous years. If one PO is not utilising its quota of one species, it informs its PO-federation who will search for another PO in need of quota for the species in question. If one PO estimates that it will exceed its quota, the PO-federation will look for unused quota elsewhere. This system works within and between the two PO federations ANOP and FEDOPA. There is no monetary or other type of payment between the PO that gives and the PO that receives quota share. To allow for an evolution of the quota sharing, the receiving PO retains their track record of half of the exchanged quota for the following year's quota distribution.

Allocation to federations of POs (ANOP for trawlers and FEDOPA for small scale) is done on the basis of catch records. However, socio-economic dependency and market interest factors may be taken into account. It is interesting to see that these two latter criteria were added after a debate between the interested parties, in which FEDOPA was in favour of taking these issues into account. The process of quota allocation involves the Ministry to propose the quotas per species, the POs to verify individual quotas and the Fleet and Quota Commission to revisit the final proposal. A reserve of quotas has also been created. This reserve aims to facilitate quota exchange with other EU Member States, to affect the track record for new entrants in the sector and to allocate quotas to POs to improve the balance between fishing capacity and fishing possibilities.

In France, POs also rule on the transfer of landing records that previously were attached to the vessel in its passage from one PO to another (i.e. from a PO harvesting in the Gulf of Biscay to one harvesting in the North Sea). POs are part of the Quota Monitoring Commission which is in charge of advising the Minister on catch and effort quota management. This Commission is composed of the Directorate of Marine Fishery and Aquaculture (administration), the two federations of POs and the National Committee of Marine Fisheries and Aquaculture. POs have started to develop strategies to match quota use with fish market value.

3.3.2.2. Utilisation and trading of rights

'Utilisation and trading' of fishing rights may include: planning (fishing activities, habitat management); pooling of rights (for effective fishing); trading and valuation of rights; and control of compliance with terms of rights. At the operational level, private organisations are much more involved in utilisation of rights than they are in the distribution of rights. Here the involvement of local fishers' associations and groups of fishers in the decision-making on day-to-day fishing practices seems to be very strong with TURFs and some Limited Licence RBM systems. The devolution of management responsibilities to such local organisations often happens in the context of co-management arrangements. Restrictions on fishing activities may go beyond government regulations. Examples are the *Cofradías* in Spain, the Koster-Vädarö shrimp fisheries in Sweden and the Limited Licence blue mussel fishery in Denmark.

In many Member States, POs are involved in the planning, coordination and pooling of the quotas of their members and swaps between POs to manage quota uptake, monitoring of uptake and the marketing of the landings. POs may also be involved with quota trading/leasing among their members (where allowed). Spain (Box 20), France (Box 23) and the UK (Box 24), are illustrative on this account.

Box 24: POs in the UK and the ITQ-like approach

There are 20 POs in the UK. They all manage quota allocations among their members, facilitate and register quota trading and plan and monitor fishing activities. The main activities of the POs in quota management are:

1. Quota allocation

Four distinct systems have evolved to internally manage the quota allocation. They range from common 'pool solutions' to ITQ, with a gradual shift towards the latter. The four systems include:

- Pure 'pool systems': where the members' Fixed Quota Allocations (FQAs) are merged and monthly catch limits are set for each member. This system emerged at the beginning of the sectoral allocation system.
- 'Pool plus systems': where the pool dominates but is combined with members managing their own 'ring-fenced' individual quotas (IQ). The IQ is based on FQA plus quota fishermen have leased or bought.
- 'Pool plus IQs': in these mixed systems some members operate in a pool, and others operate IQs only.
- 'IQ-only systems': each vessel fishes its own FQAs, based on its track record, plus purchased or leased IQ. The sum of these make up the PO's allocation.

2. Planning and administration of quota use

POs make annual submissions to the UK authorities of their Operational Programme/Catch Plan. However, this is more an administrative requirement than a plan of the fishing activities of the members/vessels of the PO. The POs control quota uptake by their members and ensure the enforcement of PO rules.

3. Quota trading and valuation

Quotas need to be first traded among PO members and secondly outside the PO. POs keep track of quota utilisation and prevent overshooting of quotas. Quota transfers have to be reported to the UK fisheries administrations. Trading of quotas among vessel owners is only allowed when quota holders use their respective POs as trade channels. Transfer of rights between POs is allowed. The value of rights

varies substantially according to market demand. For example, the price of North Sea cod can vary by a factor of three throughout the year.

4. Control of compliance with terms of rights

The POs in the UK have developed their own set of compliance rules. Deployment of disciplinary procedures is applied when a vessel owner / skipper breaks ranks, fails to conform under generally strong peer pressure, and is seen to be acting against the interests of the group. With the introduction of the Registration of Buyers and Sellers, vessel owners / skippers are becoming more sensitive to over-quota fishing. Under the increasing belief that offences to rules erode group interests, members are also much more inclined to report misbehaviour to PO managers. The most extreme forms of sanction reported have not been financial but an invitation to leave a PO (Nautilus Consultants, 2006).

Private groups such as the Dutch Biesheuvel groups and the Danish Quota Pools, both under ITQ regimes, tend to be more limited in the scope of their management responsibilities. These groups primarily deal with the pooling of the quotas of the members and the monitoring of quota uptake, leaving the regulation and coordination of fishing activities to authorities and the individual members respectively. This is a more restricted form of co-management.

Box 25: The Biesheuvel groups in the Netherlands

Biesheuvel fisheries management groups, named after former Dutch Prime Minister Barend Biesheuvel, were established in 1992 in response to a crisis in the command-and-control regulation applied in the Dutch beam trawler ITQ fisheries (for sole and plaice mainly).

The aim of the ten Biesheuvel groups is twofold: to arrive at an effective and efficient system of quota compliance that is supported by the fishers; and to improve economic performance within the quota restrictions. The Biesheuvel management regime hinges to a large extent on the idea and practice of social control and peer pressure.

The Biesheuvel groups are administered by a board, consisting mainly of fishermen but chaired by an independent chairman. The primary task of the management groups is to manage and control the quota of their members. Fishermen are free to choose their group. Within the groups the individual fishermen pool their individual quota and their days-at-sea. Fishermen remain the owners of their catching rights and days-at-sea but within the group they can easily buy, sell or lease quotas and days-at-sea in the short term, in the event that they have a shortage or a surplus. In this way the individual fishermen gain more short-term flexibility and have more options to react to unexpected events. Fishermen have to deliver a 'fish plan' to the board. The plan must show how they want to spread their days-at-sea and catches.

Beam trawl fishers appreciate the co-governance system because it gives them a say in the management of the group and their own firm; it increases their flexibility because they can transfer quotas and days-at-sea; it provides them with the certainty to take their quota share at the time they deem economically most rewarding; and decreases the likelihood that others will dodge the rules and regulations (van Ginkel, 2005).

In Finland, owners of private water bodies are obliged to form statutory fisheries associations that collectively make management plans and join Fisheries Regions for wider management initiatives and enforcement.

3.3.3. Legal aspects of PO involvement

A number of Member States' POs are involved in quota management and the allocation of individual quotas to their members. This represents an evolutionary development: POs were originally established, under Community law, in connection with the common organisation of the market for fish and fishery products, rather than the management of fishing activity. Nevertheless although POs are creatures of Community law in terms of concept and the tasks they perform; their legal status derives from national law. While the relevant EC legislation¹² sets out the criteria for recognition of POs by the Member States, in terms of legal personality POs must simply have 'the necessary legal status under national legislation'.

In practice, different Member States have allowed the use of various forms of legal entity for the establishment of POs depending on their national laws. Thus POs are established as *inter alia* limited companies, cooperatives, cooperative companies etc. This does not appear to have created any problems to date (at least none emerge from the Catalogue). However, one potentially important legal issue that may arise concerns the fact that although POs are invariably established under private law, in the management of quotas they fulfil not only a public task but also one that may impact on the (property or quasi-property) rights of quota holders. The specific question concerns the legal mechanism for challenging any adverse decisions taken by POs: are they subject to judicial review by an administrative court on the basis of public law? Or can their decisions be challenged only under private law on the basis of (implied or explicit) contractual rights? Of course the situation may vary from Member State to Member State but overall it is arguable that any uncertainty over this matter could adversely impact on the overall quality of quota rights as the ability to assert and enforce rights is at the heart of the question of security.

This situation contrasts with the organisations on which management rights (as opposed to harvesting rights) are conferred in, for example, Spain and Italy (the *Cofradías* and *Consortia* respectively) which are clearly established under public law and thus subject to judicial review by the administrative courts¹³.

Where POs form an integral part of the implementation of management at the national level, they may be held accountable for the actions of their members, and subject to sanctions for non-compliance with management requirements promulgated through the PO (in support of higher level requirements at the EU or Member state level). In practice, POs may find it difficult to control or sanction their members (see Box 26).

¹² Article 5 (2) of Council Regulation (EC) No 104/2000 of 17 December 1999 on the common organisation of the markets in fishery and aquaculture products (OJ L 17, 21.1.2000, p. 22) (as amended).

¹³ The decisions of Sea Fisheries Committees in the UK are similarly established under public law and thus their decisions may be subject to judicial review.

Box 26: Producer Organisations' measures for managing quotas in France

Since 1997, POs must send a yearly management plan related to the use of quotas (allocation of quota within the PO, temporal or vessel limitation, etc) to the Minister, and must closely monitor vessel activity. In practice, it is more recently that POs began to apply a genuine internal strategy and discipline for the use of quotas. This is mostly due to: (a) higher pressure to manage quotas; (b) an increasing number of cases where a PO exhausts its quota before the end of the year/fishing season, and increasing cases of quota-overshooting; (c) more control from the administration and stricter application of sanctions, especially related to overshooting of quotas.

The sanction for overshooting a sub-quota is as follows: if a sub-quota (of a PO for example) is exceeded by 5%, this sub-quota will be reduced by 5% in the following years, and the unallocated quota will go to the national reserve. However, if the sub-quota overshoot causes the national quota to be met or overshot for a given species and the fishery to be closed at the national level before other POs or the non-PO sector have reached their own sub-quotas, the 5% may be redistributed among them in the following years as compensation for this loss.

As a result, POs began to develop strategies to avoid over-shooting quotas and improve quota usage (in relation to market demand), in particular in developing individual sharing of quotas for sensitive species. For example in the FROM Bretagne (*Organisation de producteurs Fonds régional d'organisation du marché du poisson de Bretagne*) (~ 300 vessels), quotas used to be fished in common by PO members. However in the mid 2000s, the PO was sanctioned for over-shooting its Gulf of Biscay nephrops quota. As a consequence, the PO first decided in 2006 to limit fishing effort by imposing closed periods throughout the year in order to save quota for the end of the year. Then, in 2007, it was internally decided to establish a system of individual quotas based on historical track record (average landings based on the reference period 2004–2006).

3.3.4. Management costs and cost recovery

Socially responsible fisheries management cannot be rationally considered without including the cost of fisheries management. Calculations of resource rent in fisheries generally involve the subtraction of management costs (including research) as well as harvesting costs from the gross value of landings. This means that if costs incurred by management authorities are not recovered from the fishery in some way, this can be regarded as a tacit subsidy. As indicated below, proper accounting and allocation of management costs may represent a constraint to the development of more sophisticated RBM systems because they simply cost more to implement than the fishery can support.

RBM, like all fisheries management, involves at least three main functions (Arnason *et al.*, 2000; OECD, 2003):

1. Fisheries management administration (monitoring, designing, setting and modifying fisheries management rules and measures);
2. Scientific research (biological, social and economic research to inform fisheries management decision-makers);
3. Enforcement (enforcing fisheries management rules).

All these functions of fisheries management are costly and different fisheries management systems require different research and enforcement efforts. Sophisticated RBM systems can be costly to implement and maintain. Such systems may be economically warranted only for large, valuable resource stocks. Typically, the enforcement function — monitoring fishing operations and enforcing rules — is the most costly, with scientific research not far behind (Arnason *et al.*, 2000; OECD, 2003). Compared to these two functions, the cost of the administration function is usually less.

The substantial cost of research and enforcement effort required to implement sophisticated, quantitative RBM systems such as ITQs can represent a significant constraint to their development. ITQs require accurate real-time specification of TACs, adjusted annually in response to stock fluctuations. Not all stocks lend themselves well to this type of approach — notably those that show highly variable and unpredictable biomass from year to year (e.g. some shrimp stocks). In addition, research tends to focus on the highest priority stocks (those under the most pressure) and hence, for those where the cost of research is deemed to outweigh the expected benefits there may not be the necessary information base to establish anything more than the most simple of management strategies. This may therefore preclude the development of more sophisticated RBM systems, at least in the short term.

The research function is a more or less essential part of any fisheries management regime. Results from research (primarily biological, economic and social) provide the knowledge base for management. Common examples of these research activities include data collection, data analysis and stock assessment processes (Arnason *et al.*, 2000; OECD, 2003).

The role of enforcement and fishers' acceptance of the rules remain central to successful fisheries management, even under sophisticated RBM systems that infer long term and high quality rights on the participants. Rights require enforcement, because of the potential benefits from illegal activities.

Since, except perhaps in the case of shellfish, the fishers under an RBM system are harvesting a common resource, effective enforcement cannot be realised without the cooperation of fishers, in terms of design, implementation, and compliance. Generally speaking rights holders are supportive of enforcement activities that protect the target resource from exploitation by non-rights holders — without effective enforcement, the attributes of exclusivity and security have little meaning.

As with all other restrictive management measures, quotas generate incentives for avoidance and misreporting. To enforce individual catch quotas, catches or at least landings have to be monitored. Enforcement, which involves the inspection of actual catch or actual landings at numerous landing ports is often (but not always) expensive. If there are few landing places and the catch is homogeneous, or if the catch distribution chain is transparent, the cost of enforcing individual quotas may be relatively small. In other cases, the cost of enforcing individual quotas is likely to be substantial to the point of being prohibitively high in places where fish are landed from numerous small craft in a multitude of landing places with a minimum of technical devices and sold directly to consumers. In large-scale operations elaborate catch control and landing facilities may exist, making it less difficult to keep track of the fish, however, the monitoring and enforcement costs are still significant.

Problems are also likely to arise at sea. Individual quotas sometimes give fishermen an incentive to highgrade catches. Besides being wasteful, such practices have

potentially serious consequences for management, as the recorded catches underestimate the quantity actually removed from the fish stock. This weakens the factual base on which decisions about TAC are taken.

While individual quota regimes often require substantial enforcement activity, it is interesting to note that in countries where they have been most extensively used, i.e. Iceland and New Zealand, overall fisheries management costs, as a percentage of landed values are amongst the lowest observed (Schrank *et al.*, 2003; OECD, 2003). In any case, the substantial increases in economic gains, which are almost invariably generated by individual quota systems, should be set against the enforcement costs of the system.

Despite the fact that most forms of RBM provide for the generation of resource rent, licence or quota fees to cover the costs of management are rarely collected in the EU Member States. In some Member States e.g. Latvia, Lithuania, Estonia and Poland a licence fee is collected. Most of the fees collected are of a reasonable size compared to management costs.

In other Member States, the fees collected – if any – are often of an almost token size¹⁴. This implies that management costs including research, administration and enforcement of RBM systems throughout the EU are shouldered mainly by the EU Member States' administrations through their national budgets. Where POs and/or other user groups are involved in fisheries management they will normally cover their own costs of operation on the basis of membership fees or income generated. These costs are usually administration costs only.

The recently completed (October 2008) EU research project, 'Comparative Evaluation of Innovative Solutions in European Fisheries Management' (CEVIS), included the management costs of RBM (IQ/ITQ) systems applied in EU Member States. The findings of the project were rather inconclusive for two main reasons: (i) comparisons across countries were hampered by a lack of comparable data sets at country level; and (ii) in-country comparisons of management costs before and after the introduction of IQ/ITQ systems could not be made because Member States' cost data are not related to specific management systems or vessel segments.

3.4. Constraints to the development of RBM systems

The issue of management costs as a constraint to the development of RBM is addressed in Section 3.3.4.

3.4.1. Policy and management constraints

Almost all EU coastal Member States use some type of RBM system in the management of their fisheries. The exception is Slovenia, which has not closed its licensing system, because the fishing capacity limit has not yet been reached. Other Mediterranean countries (Greece, Cyprus, Malta and Italy) also show limited implementation of RBM systems, which — apart from bluefin tuna — are restricted mainly to limited licensing and inshore TURFs. The reason for this is that the management regime in the Mediterranean is not based on quotas, but is effort-

¹⁴ In Denmark for example, since 2007 a landing fee of 0.2% has been earmarked for research, fish stock enhancement etc., down from 0.4% in previous years.

limited, based on licensing and a range of technical measures. Nevertheless, this approach can be effective (e.g. see Box 33).

Other Member States use more elaborate quota-based RBM systems, but have restricted transferability of rights (e.g. opting for IQ or VC systems instead of ITQ or VTQ) for policy reasons. The decision to constrain transferability is usually related to the objective of protecting coastal and small-scale fisheries and fishing-dependent communities, and the perception is that allowing free transferability would permit rights to be captured by large companies, and possibly by foreign interests. Examples where free transferability is not allowed as a matter of policy include Ireland and Belgium.

3.4.2. Legal constraints

The legislative competence of the European Community in the fisheries sector coupled with the extremely broad scope of the CFP, in terms both of spatial application¹⁵ and substance, mean that the introduction of RBM mechanisms at Member State level must generally take place within the context of management measures adopted at Community level including measures governing access to waters and resources as well as within general principles of EC law¹⁶. Thus as seen in this Study, limited licences, IQs and, in some cases, ITQs have been used at Member State level to (re-)allocate at the national level fishing ‘rights’, expressed in terms of ‘opportunities’, conferred at the Community level through annual TAC and quota regulations¹⁷.

The right of a Member State to adopt conservation and management measures is limited to the taking of non-discriminatory measures within its territorial sea provided fisheries resources are not already subject to conservation and management measures adopted at Community level. Even within its territorial sea a Member State may be constrained as to the use of RBM mechanisms in respect of those fisheries where vessels from other Member States have traditionally fished¹⁸, listed in Annex I of Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the CFP¹⁹.

The current legislative framework for the CFP explains why area-based RBM mechanisms, such as TURFs and other community based management approaches, are restricted to the territorial seas of Member States. The rules of the CFP, and the management mechanisms that it provides for (such as the use of TAC and quotas) apply to fishing activities: (a) within the EEZs of the Member States; (b) undertaken by Community vessels on the high seas in respect of fisheries that are subject to regional fisheries agreements to which the Community is party; and (c) undertaken

¹⁵ The CFP applies to the ‘Community waters’ which are defined in terms of waters under the sovereignty or jurisdiction of the Member States with the exception of a number of overseas countries territories which are listed in Annex II of the Treaty. Included under this heading are internal waters, inland waters, the territorial sea and the Exclusive Economic Zone.

¹⁶ Thus RBM systems must be compatible with single market and competition rules and may not discriminate against EC citizens on grounds of nationality, residence or domicile.

¹⁷ Most recently by Council Regulation (EC) No 40/2008 of 16 January 2008 fixing for 2008 the fishing opportunities and associated conditions for certain fish stocks and groups of fish stocks, applicable in Community waters and, for Community vessels, in waters where catch limitations are required.

¹⁸ Another form of fishing ‘right’.

¹⁹ (OJ L 358, 31.12.2002, p. 59).

by Community vessels in the waters of third countries pursuant to a bilateral agreement with the Community. A Member State cannot unilaterally exclude fishing vessels from another Member State from fishing within a given area of its EEZ provided such activity is permitted under the CFP.

The question then arises as to the current and potential impact of the CFP on the use of RBM mechanisms by the Member States. On the one hand, as described in the Catalogue, Member States have made use of a range of RBM mechanisms in connection with the national-level implementation of the CFP. It may be reasonable to infer, however, that because the overall initiative for the adoption of management and conservation policy lies at the Community level, Member States have been less inclined to enshrine RBM mechanisms that make use of higher 'quality' rights (as described elsewhere in this Study) such as ITQs in primary legislation due to the need to retain sufficient flexibility at the national level to be able to respond rapidly to future management and conservation measures adopted at Community level. This approach contrasts with that of Iceland and other countries that have promoted RBM approaches, where the ITQ system is enshrined in the Fisheries Law.

The next question is: does this matter in terms of the effective use of RBM tools? On one hand the fact that TACs and quotas are allocated on an annual basis does not necessarily reduce the quality of quota rights and ITQs. After all, the right is to harvest a share of the resource and not a specific quantity of fish. Long-term property or quasi-property rights in other natural resources, such as water, typically take account of natural fluctuations in the quantity of the resource that may be appropriated in this manner. Indeed the use of annual individual quotas is probably unavoidable. On the other hand, if quotas and ITQs are established on the basis of subordinate legislation (such as decrees, regulations *etc*) and *ad hoc* arrangements, from a legal perspective they are arguably less secure than rights created under primary legislation (laws adopted by parliament). In strict legal theory, correctly adopted subordinate legislation has the same normative force as primary legislation. The point, though, is that it may more easily be modified and thus arguably provides less formal security. In other words one impact of the CFP may be that lower quality, less robust, fishing rights can be created in respect of fisheries beyond the territorial sea.

3.4.3. Legal challenges to the introduction of RBM

The preparation of this Study revealed relatively few legal challenges in connection with the introduction of RBM mechanisms by the Member States²⁰. Nevertheless, given the fact that an RBM approach will implicitly exclude from a given fishery those who do not hold relevant rights, the risks of legal challenge are significant. The risk of challenge seems to be particularly strong in connection with ITQ systems.

Indeed, the Icelandic RBM system has been subject to a number of legal challenges both at domestic level and in an international context. In 1998, in the case of *Valdimar Jóhannesson v. the Icelandic State*, the Supreme Court of Iceland held that the restrictions on freedom of employment arising out of article 5 of the Fisheries Management Act, which restricted the use of fishing vessels to those vessels in use that had previously obtained a permit, were not compatible with the principle of equality before the law under article 65 of the Constitution. Legislation (Act No.

²⁰ The Dutch ITQ system was initially subject to a number of unsuccessful legal challenges including one to the European Court of Justice. See Shotton *infra*.

1/1999) that substantially relaxed the conditions for obtaining commercial fishing permits was subsequently adopted. Two years later, in the case *Directorate of Public Prosecutions v. Björn Kristjánsson, Svavar Gudnason and Hyrnó Ltd*, the Supreme Court held that restrictions on the freedom of individuals to engage in commercial fishing resulting from Article 7 of the Fisheries Law were compatible with Articles 65 and 75 of the Constitution because they were based on objective considerations. Article 75 provides that everyone is free to pursue the occupation of his choosing although this right may be restricted by law on public interest grounds. In this case the Court noted that the quota system foreseen by Article 7(2) of the Fisheries Law, which makes catch entitlements permanent and assignable, is supported by the consideration that this makes it possible for operators to plan their activities in the long term, and to increase or decrease their catch entitlements in individual species as may suit them.

At the international level two complaints regarding Iceland's ITQ system have been referred to the UN Human Rights Committee (UNHRC). What is interesting about these cases is that they were framed in terms of breaches of human rights. The first case was rejected in 2003²¹. More recently, however, a complaint brought by two Icelandic fishermen was upheld by the UNHRC which found, by majority decision, that their human rights had been violated (see Box 27). Although the full decision runs to some 27 pages the actual reasoning of the Committee is rather brief and not particularly compelling. As much as anything, the decision can be understood not as a criticism of Iceland's ITQ system as regards its substantive content but rather in terms of the manner in which it was introduced and the initial allocation of quotas. Furthermore, the UNHRC emphasised that it was not required to address the compatibility as such of quota systems for the use of limited resources with human rights law.

The UNHRC further expressed the view that the Icelandic State was under obligation to provide plaintiffs with an effective remedy including (i) adequate compensation and (ii) review of its fisheries management system. Within the time frame specified, the Icelandic government (Minister of Fisheries and Agriculture) formally responded by letter dated June 6, 2008. Briefly, the Minister stated that the plaintiffs could not be paid compensation, nor could the Icelandic fisheries management system be instantly transformed. However, a comprehensive study would be undertaken of the Icelandic fisheries management system in the near future with a view to effecting changes approaching the views of the UNHRC to the extent possible. Subsequently, the Human Rights Committee thanked the government and declared this case closed. The decision is clearly relevant to this Study. It does not, however, set any form of binding precedent as the findings are specific to the Icelandic ITQ system and in particular the manner in which that system was introduced.

Legal challenges have followed the introduction of ITQ systems in a number of third countries (Shotton, 2004). In general terms such systems have generally speaking not been found to be unlawful *per se*. Rather, procedural aspects of the manner in which they have been introduced have been criticised.

As such challenges are made on the basis of national constitutional or administrative law, it is not possible to describe, other than in a rather general manner, the types of illegality or for that matter the factors to which the courts will have regard. Typically, though, notions of equality, fairness, procedural propriety, proportionality and legitimate expectation will arise.

²¹ Communication 951/2000, *Kristjánsson v. Iceland*, 16 July 2003.

In this connection the importance of extensive consultation before the introduction of RBM systems can be seen as an essential pre-requisite (as with other major fisheries reforms). In terms of rights allocations the importance of clear objectives and verifiable criteria cannot be overstated. Equally important is the provision of administrative review/appeal and revision mechanisms following the initial allocation, together with some form *ex-post facto* review in appropriate cases and as necessary ‘tweaking’ of initial allocations, again on the basis of objective criteria. In fact the use of such measures will not only reduce the likelihood of successful legal challenge but will also facilitate the process of reform.

Box 27: Human rights and ITQs — the Iceland case

The UNHRC is a body of independent experts that monitors implementation of the International Covenant on Civil and Political Rights (ICCPR), one of the basic texts of international human rights law. In addition it may examine individual complaints that allege violations to the Covenant by States parties to the First Optional Protocol to which Iceland is party.

In September 2003, two Icelandic citizens, Erlinger Sveinn Haraldsson and Örn Snævar Sveinsson (the ‘Complainants’) lodged a complaint with the UNHRC regarding the application of Iceland’s ITQ system to ships fishing for demersal species. More specifically, Regulation No. 44/1984 (on the management of demersal fishing) provided that operators of ships engaged in fishing for demersal species during the reference period 1 November 1980 to 31 October 1983 would be eligible for fishing licences and that quotas would be allocated, free of charge, on the basis of catch performance during this reference period. Consolidating further regulations, new legislation in the form of Act No. 97/1985, stated that no one could catch *inter alia* demersal fish species without a permit with the issue of such permits being restricted to vessels that had received permits the previous fishing year. The adoption of the Fisheries Management Act No. 38/1990 (the Act), with subsequent amendments, saw the catch quota system established on a permanent basis.

During the reference period (1981–1983), the Complainants worked as captain and boatswain: they did not, therefore, hold a quota. In 1998, they established a private company and purchased a fishing vessel, which had a general fishing permit, which was registered in the name of the company. Although certain harvest rights were obtained during the period 1997–2002, the Fisheries Agency refused to provide the Complainants with a quota, on the grounds that they had not qualified during the reference period. The result was that in order to lawfully fish, the Complainants had to lease catch entitlements from quota holders at exorbitant prices. Facing bankruptcy, the Complainants sought to force a judicial decision on the legality of the quota system by deliberately fishing without the necessary catch entitlements. Prosecuted, the Complainants pleaded guilty and were fined. Subsequently their company was forced into liquidation, the vessel was sold for a fraction of its purchase price and the Complainants were placed in an extremely difficult financial position with one of them losing his house. Following a failed appeal to the Supreme Court in 2003, the complaint was lodged with the UNHRC alleging a violation of Article 26 of the ICCPR. Article 26 states:

All persons are equal before the law and are entitled without any discrimination to the equal protection of the law. In this respect, the law shall prohibit any discrimination and guarantee to all persons equal and effective protection against discrimination on any ground such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

The basis of the alleged violation of this article was that the Complainants were lawfully obliged to pay money to a privileged group of fellow citizens (*i.e.* quota holders), in order to be allowed to pursue the occupation of their choice. The Complainants further requested, in accordance with the principles of freedom of employment and equality, an opportunity to pursue the occupation of their choice without having to surmount barriers placed in advance, which constituted privileges for others. The key question was: were the Complainants victims of discrimination in violation of article 26 of the Covenant?

In reaching its decision the UNHRC noted that the ITQ system differentiated between quota-holders, entitled to lease or sell their quota shares, and others who were required to purchase or rent quota shares in order to be able to fish. It found that while the aim of this distinction (the protection of fish stocks) was legitimate, the system was not based on reasonable and objective criteria. Specifically the UNHRC found that while the distinction based on fishing activity during the reference period may have been reasonable and objective as a temporary measure, Iceland had not shown that the particular design and modalities of implementation of the quota system met the requirement of reasonableness through the subsequent permanent transformation of rights to use and exploit a public property into individual property. In this particular case the property entitlement privilege accorded permanently to the original quota owners, to the detriment of the Complainants, was not based on reasonable grounds.

4. Identification of best practices at the EU level

4.1. Introduction

The Terms of Reference for the study require an analysis of the degree of success of RBM in Member States, by reference to fisheries and fleet segments, with regard to CFP objectives (sustainable exploitation of stocks, relationship between size of fleets and available resources, economic viability) and corresponding conservation measures (input or output restrictions).

Such an analysis would be based ideally on objective indicators of success relative to CFP objectives that can be measured on a scale compatible with the management systems themselves. For example, ICES stock assessment data provide a measure of stock status for those that are assessed, represented on a broad four-point scale from underfished at one end, to overexploited at the other. With regard to economic viability, annual reports on the *Economic Performance of Selected EU Fishing Fleets* (e.g. DG Fish, 2006; DG Fish, 2007) provide a four-point scale ranging from very weak to strong. We found no equivalent objective measure to represent the relationship between size of fleets and available resources, however, information is available in some cases regarding the degree of capacity reduction that has been achieved as part of an RBM approach.

There is a major difficulty in showing whether and how an RBM system is partly or wholly responsible for the outcomes shown by these indicators, such that if the same, or similar RBM system were used in another fishery with similar characteristics (i.e. similar species, gear, vessels etc.), there would be a reasonable expectation that the result would be repeated. Assessment and comparison of fisheries management systems is not straightforward. Management systems are complicated constructs and there are a huge number and variety of them. As discussed in earlier sections (e.g. see the discussion of ‘bundles’ of rights in Sections 2 and 3), a fisheries management system is a set of formal and/or informal rules stipulating how fisheries may be conducted. These rules pertain among other things to permitted fishing times, fishing areas, fishing equipment, fishing vessels, species, harvesting volumes, discards and so on. Each different combination of rules defines a fisheries management system, and the rights-based aspect is only one part of the overall management system. Since there can be a large number of such rules, the number of possible fisheries management systems is very great. Thus, assuming the very modest number of 10 possible fisheries management rules, the total number of combinations of these rules is over 3 million²². Of course, many combinations will be nonsensical. However, the point is that there is a great deal of complexity in these systems and new fisheries management innovations are arising all the time. As a result, in the real world it is rare to encounter RBM systems that are identical. Although they may be broadly of the same type, they almost always differ in more particular, and potentially vital, respects.

An added complication is that the RBM systems themselves have been in place for different lengths of time, having replaced or evolved from different previous management systems, and also have been applied to fisheries in varying situations. We note that the introduction of a new management system is often itself an attempt to bring change to a system that is not working well, hence there will be a period of time needed for the new system to have some impact. Depending on the target species and environment (both biological and human) this impact may take some time to be reflected in broad scale indicators. Costello *et al.* (2008) have shown the adjustment period is a critical component in the observed relationship between RBM regimes and the health of the stock.

In light of this, we have taken two main approaches to the identification of best practice. Firstly we have undertaken an analysis across all of the RBM systems described in the Catalogue (Part II of the report) to explore potential relationships between the attributes of the systems and the outcomes relative to the objectives of the CFP. This is described in Section 4.2. As will be seen, and as predicted above, such an analysis is fraught with difficulties arising from the complexities of management systems and the fisheries to which they are applied. Our second approach, therefore is to seek best practice guidance through an assessment of lessons learned from selected individual examples of RBM in the EU. This is described in Section 4.3.

²² The number of combinations of n different rules is given by $n! = n \cdot (n-1) \cdot (n-2) \cdot \dots \cdot 1$

4.2. Investigating outcomes across RBM systems

4.2.1. *Characterising and comparing the quality of rights in RBM systems*

Having examined a large number of RBM systems across the EU, it is worth exploring the available information to see whether any general, and potentially useful patterns emerge. To do this, we use the characterisation of RBM systems presented in detail in the Catalogue. This begins with the classification of RBM systems into one or other category (i.e. LL, IE, IQ, ITQ etc.) and continues with the scoring of the key attributes of these systems with respect to the quality of the rights they provide.

In the Catalogue four key attributes are used to provide a common currency with which to make comparisons across the various systems and Member States of the EU. These attributes are listed in the Commission's staff working paper accompanying the Communication on RBM:

- **Exclusivity:** this requires appropriate monitoring and enforcement systems.
- **Security** an effective legal system is required to ensure rights and the title to those rights are secure.
- **Validity:** This refers to the effective period to which the rights holder can expect to retain title to the rights. Longer validity helps to bolster the holder's trust in the capacity of the system to respond to his/her long-term concerns.
- **Transferability:** Transfer of rights from one holder to another requires ownership registries plus the rules and means to make them function.

A given RBM system may feature these attributes to a greater or lesser degree and it is convenient to measure this on a scale of 0 to 1 (see also Annex 3). A measure of zero means that the right in question features none of the attribute, while a measure of unity means that the right features the attribute fully. In general, the higher the scoring of these attributes, the higher the overall quality of the right in terms of its classification as a property right. In other words, on the basis of this system, higher-scoring rights will tend to have more of the features of property rights than lower scoring rights²³. A pattern indicating a relationship between the attribute scores and stock status and/or good economic performance would be interesting, and would warrant further investigation as to what attributes in particular might be responsible for this and whether any general conclusions can be drawn.

The attribute scores from the RBM systems described in the Catalogue are listed in Table 5, colour coded according to the type of RBM system. Figure 3 plots the frequency distributions of the attribute values across all RBM types. This shows that the security of fishing rights across all the RBM systems is consistently high (0.5 or better). It also shows that there is a wide range of levels of transferability, although there is some evidence that transferability is either high or low, but usually not in the middle of the range. This is interesting in that we have seen evidence that states either allow transfers, or they do not, as a matter of policy. For example, countries such as Belgium are opposed to transferable quota with the aim of avoiding a concentration of fishing rights, which differs from some other Member States that are more willing to let the market dictate ownership of rights, such as the Netherlands or Denmark. Exclusivity is mostly spread across the range 0.25 to 0.75. This reflects the wide range of access levels to fishing across the EU, from fisheries with open access

²³ A detailed description and presentation of the results of this scoring is provided in Part II of this report.

in Sweden to highly localised TURF fisheries in Spain. With respect to the period of validity there is a large proportion of systems that infer long-term rights.

Table 5: Attribute scores for the RBM systems described in the Catalogue (Part II)

RBM system	Country	Exclusivity	Period of validity	Security	Transferability
LL	Spain	0.5	0.5	0.75	0 - 0.25 (0.125)
LL	Malta	0.25	0.5	0.5	0.25
LL	Italy	0.25	0.75	0.75	0.25
LL	France	0.25	0.25	0.75	0
LL	Belgium	0.25	0.25	0.5	0.25
LL	Cyprus	0.25	0.5	0.5	0
LL	Denmark	0.25	0.25-0.75 (0.5)	0.75	0.1
LL	Sweden	0.25	0.25	0.75	0
LL	Finland	0.25	0.5	0.5	0
LL	Slovenia	0.25	1	0.5	0
LL	Greece	0.25	0.25	0.5	0.25
ITQ NEAFC	Spain	0.75	1	0.5	0.75
ITQ Swordfish	Spain	0.75	1	0.5	0.75
ITQ BFT	Spain	0.75	1	0.5	0.75
ITQ NAFO	Portugal	0.75	1	0.5	0.9
ITQ Swordfish	Portugal	0.75	1	0.5	0.75
ITQ	Netherlands	0.75	1	0.5	0.75
ITQ	Denmark	0.75	0.75	0.75	1
VTQ	Denmark	0.5	0.75	0.5	0.75
ITQ (2009)	Sweden	0.75	0.5	0.75	1
ITQ	Estonia	0.75	0.25-1 (0.625)	0.75	1
IQ BFT It	Italy	0.75	0.75	0.75	0.25
IQ / ITQ	UK	0.5	0.5	0.5	0.75
IQ	Ireland	0.5	0.5	0.5	0.25
IQ	Sweden	0.5	0.25	0.5	0
IQ	Finland	0.5	0.75-1 (0.875)	0.5	0.5
IQ	Latvia	0.5	0.75	0.75	0.25
IQ	Lithuania	0.5	0.25-1 (0.625)	0.75	0.25
IQ	Poland	0.5	0.25-1 (0.625)	0.5	0.5
TURF	Spain	1	1	1	0
TURF	Malta	0.75	0.25	0.5	0
TURF	Italy	0.75-1 (0.875)	1	1	0.25
TURF	UK	1	1	0.75	0.75
TURF (private)	Sweden	0.75	1	1	1
TURF (public)	Sweden	0	0.75	0.25	0
TURF	Finland	0	1	0.75	1
CQ	Portugal	1	1	0.75	0.5
CQ & IQ	France	0.5	0.5	0.75	0.5
CQ & IQ	Belgium	0.5	0.25	0.5	0.25
CQ / Block quota	Poland	0.25	0.25-1 (0.625)	0.5	0.25
ITE	UK	0.75	0.75	0.5	0.75
ITE	Estonia	0.75	0.25-1 (0.625)	0.75	1
IE	Latvia	0.5	0.75	0.75	0.25

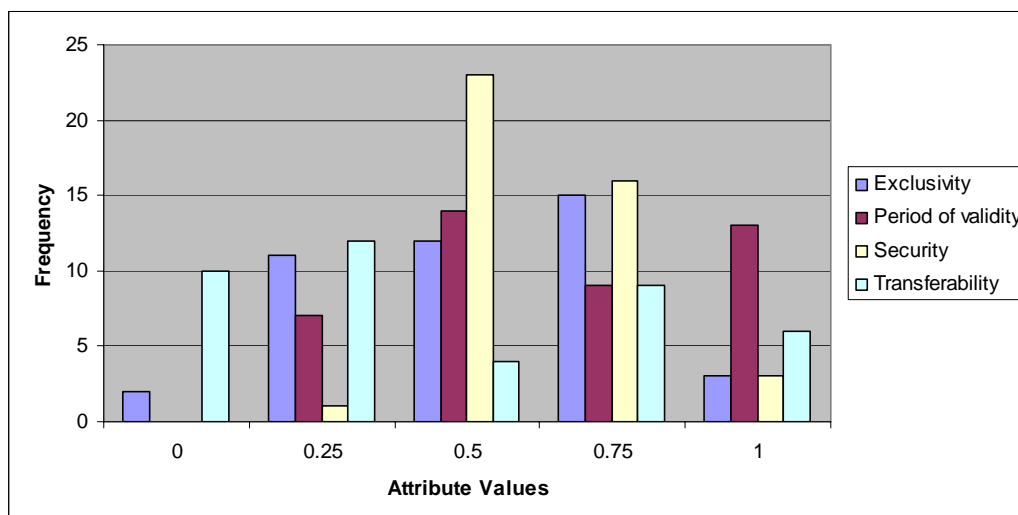


Figure 3: Frequency plot of the attribute values listed in Table 5

In Part II, the Catalogue, the value Q is described, which is a composite measure of the quality of the rights in each case, derived from the four attribute scores (see Annex 3 for details of the calculation of the Q -value). Table 6, from a paper under preparation by Ragnar Arnason, Professor, Department of Economics, University of Iceland, indicates the expected ranges of Q values for several common RBM systems. In all cases it is assumed that the property right itself (i.e. with respect to itself) is high quality (i.e. exclusive, secure, of long duration and, unless otherwise specified, tradable). These ranges of Q -values are intended to be indicative only, but they do serve to illustrate how as an RBM system infers greater exclusivity, more flexibility in terms of buying and selling rights and higher confidence through better security and longer validity, so the overall quality of the right increases. The RBM systems listed in Table 6 are described in Box 28.

Table 6: Quality of property-rights of common RBM systems with respect to the resource, starting with the highest quality rights first

System	Rights' quality (Q -value w.r.t. the resource)	Comments
Sole ownership	Very high ($Q > 0.9$)	
TURFs	Very high ($Q > 0.9$)	If resource is sufficiently sedentary
ITQs	Medium-high (Q approx. 0.7)	
IQs	Medium (Q approx. 0.5)	
Tradable effort quotas	Low-medium ($Q < 0.5$)	
Effort quotas (restrictions)	Low ($Q < 0.3$)	Unless effort is strongly correlated to harvest
Access licences	Very low ($Q < 0.2$)	Unless very few fishers in which case it may become a community right)
Investment licences	Very low ($Q < 0.2$)	
Community rights	Low to high	Depending on the nature of the community and what it does with its rights.

Source: Arnason, in prep

Box 28: Description of RBM Systems in Table 6

Sole ownership means that there is one owner of the resource in questions. His property rights, therefore, are similar to the rights of a farmer to his herd of animals living on common land. These rights are obviously not perfect ($Q < 1$) because the welfare of his herd of fish depends on other fish stocks and the ocean habitat where the fish live. In other words, his exclusivity is by no means full. He will have to suffer influences (external effects) from others utilising the same ecosystem. Nevertheless, his property right is strong, hence a reasonable score for the property right's Q-value is $Q > 0.9$.

TURFs are like a farmer's plot of land and the living organisms within the TURF (usually molluscs) correspond to the farmer's herd of animals. Thus, TURFs have the potential of being very strong property rights. TURFs however are not fenced in so the quality of the property right depends crucially on the rate of emigration/immigration of resource units with respect to each TURF. On top of this, there are the common ecosystem and habitat impacts in terms of water bodies, nutrients, infections, pollution and so on. So in the case of TURFs, exclusivity is also not perfect. Given however that the resource in question is sedentary (relative to the size of the TURF) so that emi-/immigration is negligible, the property right's value with respect to the resource (or resources) is similar to that of a sole owner or $Q > 0.9$.

ITQs are extraction rights. They provide the holder rights to whatever yield the resource can provide. Someone else (i.e. a management authority) decides on the path of the resource and may set rules regarding how the extraction is carried out, although ITQ holders may also have a say in this. It follows that exclusivity as far as the basic resource is concerned is quite limited. Thus, even when duration, security of title and transferability are perfect, the overall property right's value to the resource cannot be high. Including low exclusivity into the Q-value formula (Annex 3) for ITQs suggests overall Q-values between 0.5 and 0.9. In Table 7, the mid-point of this range is used.

IQs are simply ITQs with no (or very little) transferability. It follows that the property right's value of IQ systems is likely to be less than that of ITQs.

Effort quotas confer much less exclusivity to the harvest, and therefore to the resource, than IQs. It follows that their Q-values must be correspondingly less. Tradability of effort quotas however increases the property right's value relative to IQs. However, as this is unlikely to balance out the reduced exclusivity, in Table 7, the possible range of Q-values is set from zero to 0.5, depending on the level of exclusivity actually generated by the effort quotas.

Access licences are merely rights to access to the resource. They as such provide little or no exclusivity to harvest, let alone the resource itself. As a result, the property right's value must be quite low; unless of course those with access licence combine to install their own management system on one another in which case they have, *de facto*, installed another fisheries management system. Moreover, usually transferability of access licences is quite low, although given the low exclusivity, this is not crucial. For reasonable ranges of exclusivity, e.g. from zero to 0.05, and very limited transferability, the Q-formula (Annex 3) yields Q-values below 0.2.

Investment licences exhibit even less exclusivity relative to the resource than access licences. The reason is that restrictions on investments rather than the number of extractors can hardly generate more exclusivity regarding the use of the

resource. Thus, the Q-value is clearly under 0.2.

Community rights are not really a fisheries management system. The community receiving the collective rights still has to select a fisheries management system for its fishers to follow. If the community decides on unhampered fishing for its members, the community's fishers are essentially in a common property situation with very low Q-values. If the community allocates its community rights as IQs/ITQs, effective TURFs or to one member, the individual property rights become those of these fisheries management systems listed in Table 7. If the community forms a sole owner company to run the fishery on behalf of all its members and this company can make its own decisions autonomously (although they may reflect the preferences of the community), the situation is one of a sole owner with the corresponding Q-value. So, with community rights, the property right's value depends on how the community uses its collective rights. It follows that under community rights, the Q-value may range from virtually zero to a very high value as indicated in Table 7. Note that these speculations on the Q-value presume that the community has virtually full and complete rights over the resource. If this is limited, e.g. by the government, the maximum Q-values obtainable will be less than those under sole ownership and TURFs.

Arnason (2007) has described the implied relationship between the quality of the right (here measured by Q) and economic efficiency. Differences in the design details of individual fisheries management systems and the underlying fish resources, however, mean that it is only possible to determine property rights' Q-values by reference to specific cases. Table 7 lists the calculated Q-values for the RBM systems described in Part II. It is then instructive to look at the relationship between of Q-values of individual RBM systems, relative to their expected range, as a first approximation of their degree of success with respect to the quality of the rights they provide. Figure 4 plots the Q-values from Table 7 alongside the approximate expected ranges based on Table 6. In some cases the calculated Q-values are outside the expected range. The possible reasons for this are explored below.

Table 7: Q-values for the RBM systems described in the Catalogue (Part II)

RBM system	Country	Q-value
LL	Spain	0.37
LL	Malta	0.28
LL	Italy	0.32
LL	France	0.22
LL	Belgium	0.22
LL	Cyprus	0.24
LL	Denmark	0.29
LL	Sweden	0.22
LL	Finland	0.24
LL	Slovenia	0.30
LL	Greece	0.22
ITQ NEAFC	Spain	0.65
ITQ Swordfish	Spain	0.65
ITQ BFT	Spain	0.65
ITQ NAFO	Portugal	0.69
ITQ Swordfish	Portugal	0.65
ITQ	Netherlands	0.65

RBM system	Country	Q-value
ITQ	Denmark	0.75
VTQ	Denmark	0.52
ITQ (2009)	Sweden	0.66
ITQ	Estonia	0.71
IQ BFT It	Italy	0.53
IQ / ITQ	UK	0.45
IQ	Ireland	0.35
IQ	Sweden	0.24
IQ	Finland	0.48
IQ	Latvia	0.46
IQ	Lithuania	0.43
IQ	Poland	0.43
TURF	Spain	0.60
TURF	Malta	0.27
TURF	Italy	0.67
TURF	UK	0.82
TURF (private)	Sweden	0.91
TURF (public)	Sweden	0.00
TURF	Finland	0.00
CQ	Portugal	0.73
CQ & IQ	France	0.46
CQ & IQ	Belgium	0.28
CQ / Block quota	Poland	0.30
ITE	UK	0.59
ITE	Estonia	0.71
IE	Latvia	0.46

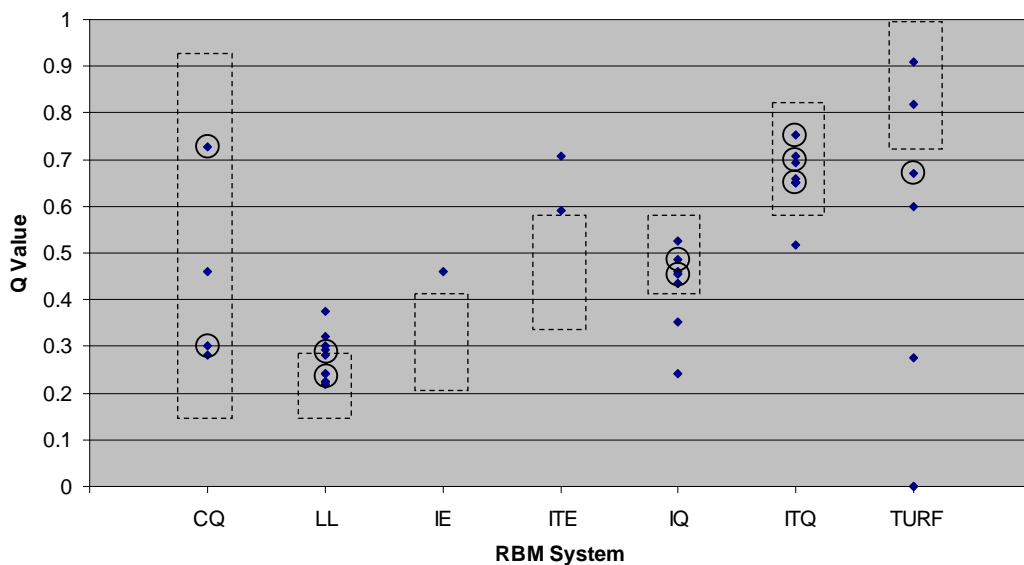


Figure 4. Q values of RBM systems in the EU as assessed during this study. The dotted lines indicate the expected range of Q-values for each RBM system (Table 6). The circled datapoints are those that were selected as case studies (Section 4.3).

Figure 3 above shows the Q-values of the rights for each RBM system assessed during this study and the expected range of rights values (as described in Table 7). In any resource access situation, exclusivity is an essential attribute and therefore has a major influence on the Q-value of the right. Without exclusivity, the owner has no control over the exploitation of that resource; hence the value gained from that resource is variable. Therefore, the major characteristic of rights that causes an RBM system to be outside of the expected range is exclusivity.

Although the Q-value for TURFs is expected to be high, there are some occasions where the value of the right is undermined. This is the case in Sweden and Finland. In Sweden, there is a TURF system in place for shrimp fisheries in public waters and as there is open access for anyone with a licence who obeys the fishing rules, there is no exclusivity. This severely impacts the quality of the right. This is similar to the TURF system in Finland. Waters are privately-owned which would suggest a high level of exclusivity; however, the owners have no opportunity to exclude other fishermen from the fishing waters. This is due to the fact that the fisheries legislation emphasises the importance of general access of fishermen to privately-owned waters.

In the case of the IQ system utilised in Sweden to manage mainly herring purse seiners and trawlers, the quality of the right is poor due to relatively low scores across all four characteristics. Most importantly, quota is only issued for a year (or less) and is not transferable. It is likely that in late 2008 or 2009 an ITQ system will be implemented which will mean that rights will be fully divisible and transferable, thus increasing the scores of quality characteristics across the board. Under an ITQ system for these fisheries, a Q-value of 0.66 would be expected, much higher than the current value of 0.24.

The quality of rights under the ITE system in Estonia is higher than expected. One reason for this in Estonia is that validity of the right is either 0.25 or 1, as effort quota is allocated for only 1 year, but in practice for perpetuity. To calculate the Q-value, a score half way between the two (0.625) was used. Another reason is that the ITE system offers more security when compared to the ITE system in the UK salmon fishery. The Estonian system is governed by clear legal regulations whereas regulations for salmon net fisheries in the UK are reviewed periodically and are often subject to seasonal or other forms of closures.

Some of the limited licensing systems have Q-values that are slightly higher than that expected. In Spain (LL in the shellfish fishery) this is the result of a high score for security, since the licensing rights are embedded within the *Cofradías* system, which enables the shellfish gatherers to defend their rights from other groups, and from local government. The Q-value for the Italian Generalised Licence Scheme also has a slightly higher score, because of the long period of validity (8 years and renewable) — much longer than is common for most licensing systems in which licences are usually valid only for one year. Of the other systems on the borderline, one is the Danish LL system for the blue mussel fishery, which scores highly on security, since co-management structures are strong and rules are well-respected.

Overall, the majority of RBM systems prevalent in the EU have a level of rights quality within, or close to, the expected boundaries. A range of reasons exist for the occasions where RBM systems fall outside the expected range, due to the varying nature of the RBM systems and the fisheries in which they are implemented across the EU. Importantly, aspects which modify the Q-value to outside of the 'expected' range are usually as a result of the interaction between different aspects of the management system (e.g. limited licences being a stronger right than a simple

licensing system due to co-management aspects that go hand-in-hand with the licensing system, or reduction in the quality of TURF rights due to other access rights coinciding with the TURF). This emphasises the issue of 'bundles' of rights, which may need to be assessed in their entirety, to determine the overall effect of interactions between the different rights, and the overall management system within which they operate.

4.2.2. Relationships between quality of rights and measures of success

Having considered the Q-values themselves, the relationship between these values and the measures of stock sustainability and economic performance of the fisheries under these management systems was investigated. In essence the aim was to see whether high quality rights lead to sustainable stocks and economically profitable fishing fleets, two key objectives of the CFP.

Based on 2007 and 2008 ICES stock assessment data, a judgement was made for each RBM system on the approximate status of the stocks managed under the regime. The categories used were:

1. overexploited;
2. overexploited but harvested sustainably;
3. unknown but within safe biological limits; or
4. underfished.

In cases where RBM systems are used to manage fisheries on a wide variety of stocks, these stocks were grouped into similar species in order to gain a clearer picture of stock status. There is, however, a clear limitation with respect to matching up a specific RBM system with the status of a particular target stock.

In essence, there is no simple means of directly mapping fish stocks with RBM systems, since the latter are implemented at the Member State level and fish stocks may be exploited by fleets from several Member States. As a result, a given fish stock may be subject to fishing by fleets operating under several different management regimes. Equally, a single RBM system may be used to manage a wide variety of fleets that catch a wide variety of species. In Italy, for example, limited licensing (an example of RBM with a relatively low Q-value) is used to manage Mediterranean trawlers, purse seiners, and midwater pair trawlers targeting a wide range of stocks with variable levels of ecological status.

There is a similar mapping problem with respect to information on economic performance. Data were taken from the reports on economic performance of EU fishing fleets (DG Fish, 2006; DG Fish, 2007). These data are compiled at the fleet level and several fleets may be fishing under a single RBM system. Economic performance was represented in four categories:

1. very weak;
2. weak;
3. reasonable; and
4. strong.

Despite these limitations, an attempt was made to investigate the relationships between Q and stock sustainability, and between Q and economic performance of

the fleets operating under different RBM systems. In cases where an RBM system is used to manage a wide variety of stocks, these stocks were grouped into similar species in order to gain a clearer picture of stock status. Figure 5 shows the resulting plot. While it is possible to see, for example, that all of the ITQ regimes have relatively high Q-values (as per Figure 4), the stocks fished under these management regimes range from overexploited to unknown, but within safe biological limits. The picture is similar for other management systems. The only underfished stocks are under TURF regimes.

Figure 6 shows the relationship between the economic indicators and the quality of the fishing right. A similar situation to the stock status analysis can be seen, in that fleets managed under systems with high Q-values display a wide range of economic performance. It should be noted also that the dataset in this case was smaller, because economic data were not available for a number of countries, including Malta, Cyprus and Ireland²⁴.

To investigate these relationships further a series of separate plots of the same data were prepared, one for each of the RBM types covered. These plots are provided in Annex 4. A key showing which data point refers to which RBM example is also included. While these plots help to illustrate the data in more detail, there is little additional insight to be gained in terms of possible relationships.

Of the fisheries managed through limited licensing, all are either overexploited but harvested sustainably, or of unknown status, but within safe biological limits. In terms of economic performance, this is either weak (e.g. Belgium and Finland), or strong (Spain, Italy, Greece and Malta). As indicated above, the fisheries managed using ITQs and IQs cover the entire range of outcomes in terms of stock status and economic performance. The best in terms of economic performance are fisheries managed using individual quotas in the UK (under 10m), Lithuania and Sweden. There are only a few examples of fisheries managed using ITE (salmon in the UK; coastal fisheries in Estonia) and IE (coastal fisheries in Latvia). All have higher than expected Q-values due to medium to high scores across all attributes (Table 5). Economic performance is very weak in the Estonian fishery and reasonable in the Latvian fishery, even though the former has a higher Q-value due to the transferability of the fishing rights. While the TURF and Community Quota RBM systems show a broad range of Q-values, of those for which data exist, none are regarded as overfished and none have a very weak economic performance.

The difficulties faced in the analysis present a number of issues for consideration. One is that the Q-values are sensitive to particular numerical value assignments for each of the four attributes. For example, two of the examples of TURFs have Q-values near or at zero, driven largely by zero values for exclusivity. That is, in this case, some changes in the exclusivity values would shift the Q-values for the two TURFs significantly.

There are also many sources of variation that are not accounted for by the graphical representations, such as the length of time a particular RBM system has been in place, and the nature of the system it replaced, if any. If an RBM system has been in place for a long period of time, the Q-value could possibly be weighted higher than

²⁴ There is a difference in the number of RBM systems represented in Figure 5 and Figure 6 due to availability of data from different sources. The stock status data were obtained from ICES and the economic performance data were from the 2005 Economic Performance of Selected European Fishing Fleets report. Data were unavailable from one or other source for some fishing fleets and/or stocks.

that of a recently implemented system, given higher levels of stability of management. Alternatively, exclusivity in the Q-value could be adjusted to reflect more time in operation. Further research could indicate what relevant time ranges are appropriate, since they likely vary across species, although identifying a clear shift in the management regime may also not be entirely straightforward given the way in which systems tend to evolve over time.

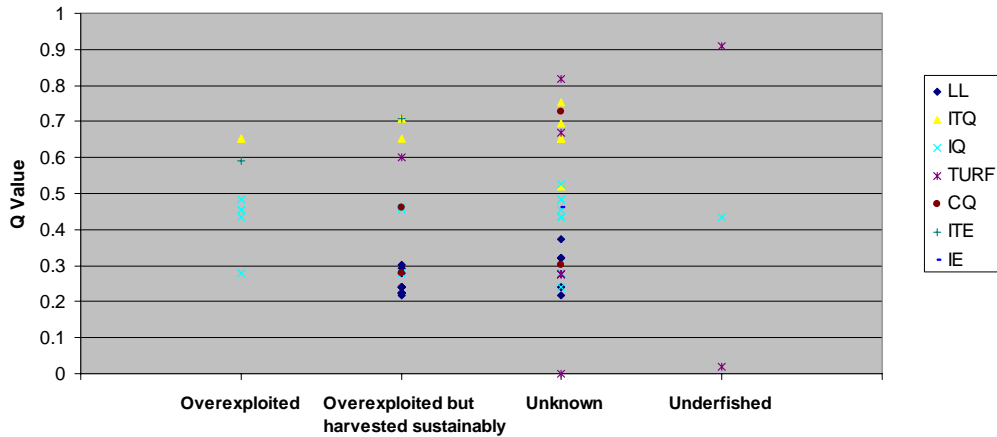


Figure 5 Relationship between Q value and Stock Status by RBM system

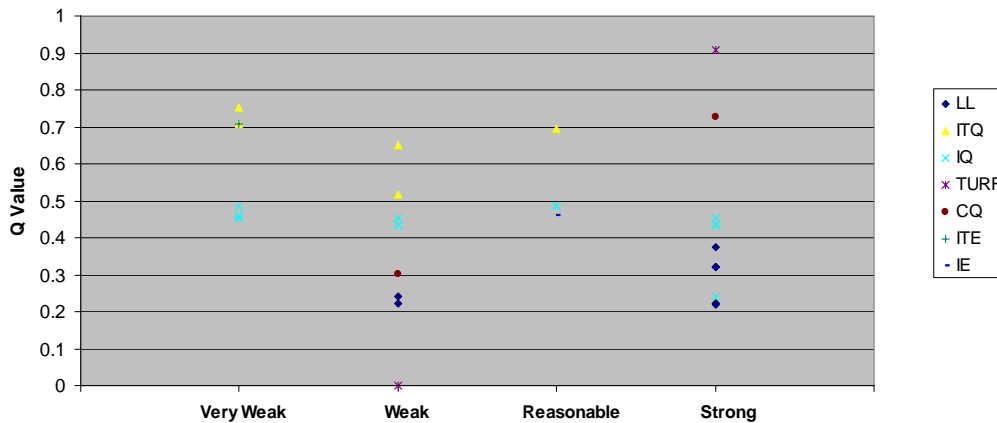


Figure 6 Relationship between Q Value and Economic Performance by RBM system

Neighbourhood effects on RBM regimes are likely to be critical as well. While the CFP sets the annual total allowable catch and allocates that catch across Member States, there could be important variation in the management regimes implemented by two or more EU Member States exploiting the same stock, such as in the Mediterranean (swordfish and bluefin tuna) and Baltic fisheries (herring). Different countries exploiting the same fishery use different RBM regimes; for example, some with ITQs others with limited licensing. Since the latter has lower Q-values, its use could have negative stock effects that also show up for the country using ITQs. In the same way, different countries accessing the same fishery could have different enforcement regimes even with the same RBM instrument. This could include varying levels of enforcement and varying standards in adhering to catch allocations. In this case as well, the relationship between the stock and the strength of the RBM regime Q-value could be low.

A final issue has to do with TURFs. They are typically granted high Q-values for exclusivity, durability, security, transferability. However, decision-making and coordination breaks down as groups become more heterogeneous and larger in number. Where the size and composition of the fleet is changing and the value of the species harvested is rising, the ability of a TURF to provide relatively strong rights may decline. This again suggests that a longer time frame might be considered in assigning Q-values to TURFs to reflect recent changes in the fleet and fishery.

In summary, clear relationships between RBM systems or the quality of rights and CFP outcomes (stock status and economic profitability of fleets) were not found. This is due to a number of confounding factors in the analysis, such as: stocks being targeted by fleets from several Member States using different RBM systems; a single RBM system being used to manage a variety of fleets targeting a range of stocks; lack of data on stock status and fleet economic performance in some cases; length of time an RBM system has been in place and the state of the fishery when it was implemented; recovery times for different fisheries; neighbourhood effects; the size and heterogeneity of fleets targeting particular stocks; and enforcement effectiveness.

4.3. Case studies of RBM in the EU

4.3.1. Introduction

This study has focussed principally on empirical studies of RBM systems in the EU. It has also covered a very wide range of management approaches used by Member States following the broad interpretation of the meaning of RBM elaborated in the Terms of Reference and during meetings with DG Mare. The concept of best practice in this context is somewhat subjective. It is by no means certain, for example, that current practice in Member States will provide informative results with respect to determining 'best' practice that is applicable elsewhere. Nevertheless, while the deeper complexities of RBM systems require more detailed and longer-term analysis, there is significant benefit in applying, as we have done in the RBM Catalogue (Part II), a standard quantification of attributes across a large number and range of RBM systems. This approach has the potential to demonstrate patterns of success and/or failure at the macro level when set alongside information on stock status and economic performance of fishing fleets. While it has not been possible to elaborate clearly such patterns during this study, the reasons why this is so have been discussed, and the exercise itself has been extremely informative in terms of illustrating the level of information on RBM systems across the European Union generally and more specifically regarding cause and effect with respect to the objectives of the CFP.

The degree of variability in the design and implementation of management systems, and the indirect alignment of management systems with fish stocks make empirical analysis extremely complex and results difficult to interpret in a way that can be transported to other fisheries. Nevertheless, more work can be done, and as more RBM systems are elaborated and those that exist are in place for longer, so patterns of success and failure, such as those predicted by economic theory, may start to emerge.

In the mean time, it may be more instructive to look in more detail at a smaller number of iconic examples of RBM to seek out lessons learned that will be of value in developing and elaborating RBM approaches for specific applications in the

shorter term. In this section, the task of analysing the degree of success of RBM in Member States has therefore been approached with reference to a series of examples from a selection of EU fisheries under a variety of RBM systems. These fisheries have been described previously in the RBM Catalogue (Part II) and in many cases also in Section 3. In the following boxes these case studies are presented with the aim of describing aspects of the RBM systems where they have resulted in positive outcomes, and also where the systems have not performed according to expectations. More information on the fisheries in question can be found in Part II, the RBM Catalogue.

4.3.2. Selection of case studies

The selection of case studies by the project team was undertaken to provide an informative range of examples that provide lessons learned which are expected to be of value in the future development of RBM systems in the EU and elsewhere. The case studies were selected to provide examples from a range of RBM systems, fleet types, fishery types, and geographic coverage of the various regions of the EU. Furthermore, the case studies represent a range of Q-value scores, and differing success in terms of stock status and economic performance (see graphs in Annex 4). The selected case studies and their features are outlined in Table 8.

Table 8: Summary of case studies

Case study	RBM system	Fleet type	Fishery type	Geographic coverage
Spanish NEAFC '300' fleet (Box 29)	ITQ	N and NW trawlers / Galician purse seiners / 300 fleet	Hake, nephrops, lings, whiting, anglerfish, flat fish, pollock	NEAFC waters (ICES Zones Vb, VI, VII, VIII a,b,d,e)
UK whitefish (Box 30)	IQ / ITQ	Under 10m vessel sector	Cod, haddock, whiting, flatfish, rays, shellfish, Nephrops	ICES Zones IV, VIIa,d,e,f,g, VIa
Transferable quota systems in Danish fisheries (Box 31)	ITQ	Danish seiners / gillnetters	Herring, mackerel	ICES Zones IIa, IVab, IIIa, IVabc, VIa, IIIa, IVabc, IIIId (sprat only), Vb1,b2, VIab, IVc, VIId
North Sea beam trawl: Netherlands ITQs and Belgium CQs (Box 32)	ITQ CQ & IQ	Beam Trawl Flatfish fishery	Flatfish (plaice, sole)	North Sea ICES Zones IIIa,b,c,d
Gulf of Lions trawler fleet: Limited licensing in the French Mediterranean (Box 33)	LL	Trawlers	Mixed	Mediterranean
Resource rent generation in Nordic Fisheries under various RBM systems (Box 34)	Various	Various	Various	Sweden, Denmark, Finland
Limited Entry Licences for Danish blue mussel (Box 35)	LL	Mussel dredging	Blue mussel, oyster	Limfjord, Kattegat and Wadden Sea
Community Quota for Portuguese sardine (Box 36)	CQ	Coastal purse seiners	Sardine	Portuguese coast
Clam consortia and self-management in Italy (Box 37)	TURFs	Clam harvesting in Italy	Clams	Italian coast
Comparison of IQs in Poland and ITQs in Estonia (Box 38)	ITQ IQ	Pelagic trawlers Pelagic trawlers	Herring, sprat and cod. Cod, salmon, sprat, herring, turbot, carp bream, pike-perch, flounder	Baltic Sea ICES 24, 25, 26, 27 (rarely)

4.3.3. Case study boxes

In discussing lessons learned in these examples, the following issues have been covered, amongst others:

- Sustainability of the resources;
- Race to fish;
- Fishing capacity vs. fishing opportunities;
- Economic viability;
- Protection of small-scale fisheries; and
- Discarding practices.

Box 29: Spanish NEAFC '300' fleet (ITQ)

Sustainability of resources

The fleet known as the Spanish '300' is an offshore fleet operating in the geographical limits of the North-East Atlantic Fishery Commission (NEAFC) in the fishing grounds of Grand Sole (ICES V b, VI, VII, VIII a, b, d, e). This is the most important Spanish fishery in terms of landings and represents 13% of total national landings. The management of the '300' fleet is described in the EU RBM Catalogue (Part II). This fleet was managed through the individual effort quotas from 1986–2006 and is now managed through individual catch quotas (2007 to date). Landings in this fishery have fluctuated, with an increasing trend over the period 1994–2004 (Figure 2), but it is unclear whether this trend is linked to the RBM approach or is the result of other measures such as decommissioning schemes or the recovery plans on the main species, including Northern hake (implemented in 2001). These recovery plans may have positively impacted stock status. The Spanish share of the hake TAC was increased by 12% in 2005–2006 and from 2007 has been kept around 19,000 tonnes (increasing to 19,625 tonnes in 2009).

Race to fish

The introduction of transferability for the effort rights in 1997 (Law 23/1997), has speeded up the reduction of the fleet and resulted in changes in the geographical distribution of vessels and rights. In 1996, the Galicia AC held 53% of the fleet whilst the Basque Country held 47%. By 2006, these values had changed to 74% and 22% respectively. Hence, it seems that the RBM approach and individualisation and further transferability of rights have provided flexibility to allow individual or group decisions (e.g. through POs). Other factors that have allowed capacity reduction in this case were decommissioning and the incentives provided by Orden 157 of 1/7/1992 that allowed accumulation of rights from decommissioned vessels. Thus a scrapped vessel could transfer their right to vessels from the same company, other company, harbour or PO. This regulation specified that the withdrawn boat owner was eligible to receive a bonus for scrapping even when he transferred its right. This incentive may have speeded up the substantial fleet reduction of up to 30% in the period 1992–1997. Consequently, the race for fish has significantly been reduced during the life span of the RBM approach.

Economic viability and fishing capacity versus fishing opportunities

One of the main and most noticeable outcomes of the introduction of the RBM approach to the demersal Spanish fisheries has been capacity reduction (Figure 1). The reduction in fleet size through decommissioning (under MAGP) was already taking place during the early and mid-1990s, with a rapid change over the period 1994 to 1997. Capacity is now better matched with fishing opportunities. Indeed, the '300 list' now comprises 200 vessels. The reduction in fleet size has had an associated impact on the number of

fishermen employed (see Figure 3). This reduction in employment and the changes in fleet geographical distribution mentioned above are likely to have had some impact on the social fabric in the fishing communities concerned. There has also been some renovation of the fleet. In 2005, 81 vessels (40% of the fleet) were under 12 years old. The value of landings has shown a steady positive trend since 1999 (Figure 4) although profitability of the Spanish fleet in Grand Sole has declined over this period (Figure 5). The rise in landings price depends on a number of factors including market value, which may in turn reflect an increase in costs. The rise in the price of fuel is likely to have been an important factor in the reduction in profitability.

Protection of small-scale fisheries

There are no small-scale fleets in this fishery, as the fishing grounds are in distant waters, requiring vessels capable of long trips. However, the government has established a separate management system for boats <100 GRT (order APA/3773/2006). This can be understood as a form of protecting smaller boats. Until 2007, boats <100 GRT had a separate quota (21 % of the TAC), which was managed under a common pool approach for all participants. Since 2008, they now have their quotas allocated individually (order APA/3844/2007).

Discarding

Due to this being a mixed fishery it is likely that high-grading and consequently discarding have been practiced throughout the history of the fishery. It is unclear whether the inception of the transferability characteristic in the RBM approach (first in the effort based model and then in the catch quota model) have had any significant impact on this practice. It is expected that the most important influence with respect to discard rates is the use of more selective mesh sizes and surveillance under the recovery plan.

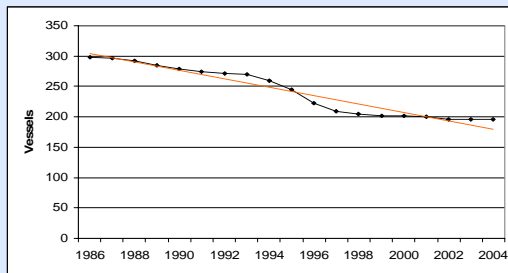


Figure 1. Number of vessels in the Spanish fleet in the Grand Sole. Source: EU, OECD, 2006

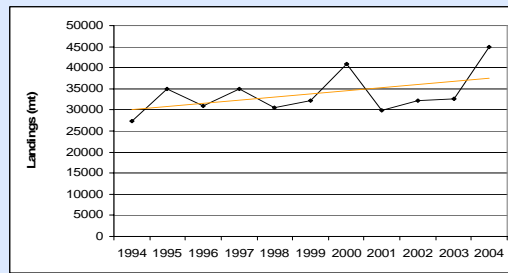


Figure 2. Landings in the Spanish fleets in Grand Sole 1994 - 2004. Source: EU, OECD, 2006

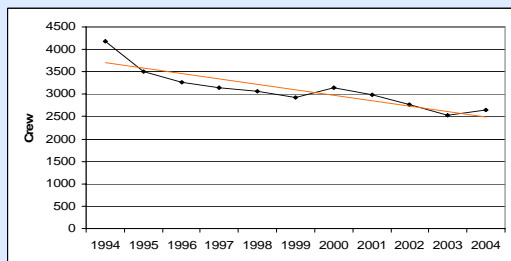


Figure 3. Evolution of the crew employed in the Spanish fleets in Grand Sole. Source: EU, OECD, 2006.

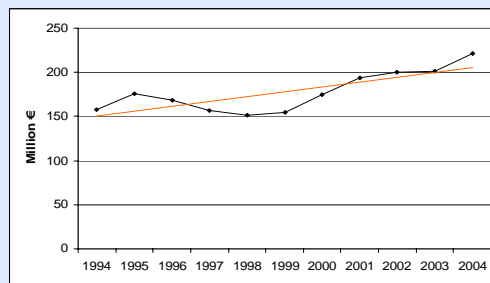


Figure 4. Evolution of landings value 1994 – 2004. Source: EU, OECD, 2006.

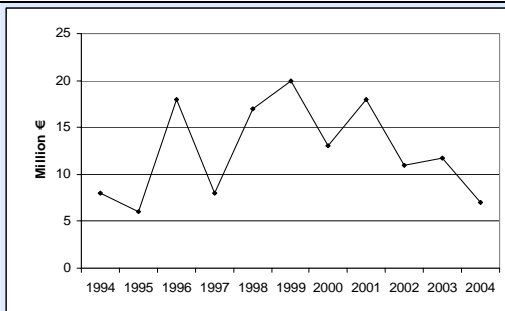


Figure 5. Evolution of fleet profitability in the Spanish fisheries in Grand Sole. Source: EU, OECD, 2006.

Box 30: UK whitefish (IQ/ITQ)

Sustainability

The UK system of quota management for marine fisheries primarily exists to allocate the UK national quota. The system only plays a part in ensuring sustainability insofar as it implements the quota limits agreed at the EU level, which are intended to be set at levels that promote sustainable fisheries.

Race to fish

UK quota management together with days-at-sea restrictions (in 2007) appear to play a part in slowing the race to fish, because each vessel may only catch up to its FQA, and further fishing for some quota species as by-catch is limited by the time the vessels are allowed to fish. In theory, therefore, a vessel may take its FQA at any time during the year and need not 'race'. In practice though, many European marine fisheries are operating mainly on recently recruited fish, with reservoirs of older, larger fish being low. Consequently, those fishing earlier in the season, including non-UK vessels, are expected to benefit from higher catches per unit of effort of the fish large enough to be landed and marketable. Also, the most powerful and efficient vessels will continue to catch these fish when others cannot, thereby encouraging fishers to invest competitively in more efficient boats and equipment. Due to the limitations in exclusivity of the rights as a result of other Member States' vessels having access to the same stocks, UK fishery organisations have little incentive to promote conservation of fish stocks for the long-term future when those fish are likely to be caught by fishers from other nations. Imperfections in the enforcement of landings quota around Europe, as well as the widespread practice of discarding of fish that are not registered under landings quota, further detract from the effectiveness of UK quota management as a means for slowing the race to fish.

Economic viability and fishing capacity versus fishing opportunities

The UK fishing industry has contracted substantially in recent years (Cotter *et al.* 2006) implying poor economic viability. Fish stocks are mostly at low levels because of sustained, heavy fishing pressures. Unfettered trading of ITQs is considered to bring about better matching of fishing capacity with fishing opportunities. In the UK, administrative and PO involvement with the ITQ trading process brings about delays (Hatcher *et al.*, 2002) suggesting that the match of capacity and resource is often less than optimal. Additionally, European TACs are mostly adjusted annually and sometimes vary widely. This, as well as uncertainties over future availability of cost-effective days-at-sea, creates difficulties for fishers wishing to adjust their investment

in vessels and gear to match the future allowable and available catch of fish in an economically efficient way (Kell *et al.*, 2005; del Valle *et al.*, 2006). Furthermore, because of incentives to catch scarce fish resources early in each season, fish will not necessarily be landed with timings that maximise first-sale market prices. Instead, prices vary widely over each season reflecting gluts and dearths in supply. This reasoning suggests that UK fisheries are likely to be over-capitalised with respect to economic efficiency. A further issue that affects economic viability is the superimposition of both input and output controls: days-at-sea restrictions added on to existing quota restrictions. This acts to reduce the potential profitability of the fleet, by restricting their operations.

Protection of small-scale fisheries

With respect to the protection of small-scale fisheries, quotas for the under-10 sector as a whole are now under-pinned, and under-10 vessels may now join POs in order to improve their quota allocations when necessary. The under-10 sector now includes the majority of vessels in the UK fishing fleet and might therefore not be considered 'small-scale' any longer.

Discarding

Discarding of under-size fish by UK trawlers is generally high (Cotter *et al.*, 2006), reflecting the need to target young fish in order to make a living. CFP regulations mostly relate to retained and landed fish and prohibit the landing of under-sized individuals. This effectively promotes discarding of small fish that are caught with legal mesh sizes. The alternative of banning discarding would, however, be difficult to implement effectively unless small fish have a market value. High-grading is seldom seen by sea-going observers in UK fisheries because of the scarcity of fish, especially large individuals.

Box 31: Transferable quota systems in Danish fisheries

In January 2003, Denmark began using a system of ITQs in the herring fisheries on a trial basis. Based on the positive experiences in terms of fleet economic performance and modernisation, the ITQ system was made permanent from January 2007 and was expanded to include other pelagic species such as mackerel, horse mackerel, sprat, blue whiting and also sandeel. The ITQ fisheries account for 35% of the value of the Danish fish landings.

At the same time, a system of Vessel Transferable Quotas (VTQs) were introduced in the demersal fisheries and applied to cod, saithe, plaice, haddock, hake, sole, turbot, monkfish, nephrops, and prawn fisheries that altogether represent 55% of the value of the Danish fish landings. The main difference between the ITQ and the VTQ systems is that in the latter quotas and vessels are (with few exceptions) inseparable. In the VTQ system the national quotas are divided among the fleet and can be traded (with vessels) and pooled between vessels through loan, lease or swap arrangements. However, from January 2009 the VTQ system has become an ITQ system; the quotas can now be traded (with few limitations) without any ties to the fishing vessels to which they were initially allocated.

Sustainability of resources

The implementation of ITQs in the Danish pelagic fisheries has, among other things, paved the way for members of the Danish Pelagic Producer Organisation (DPPO) to apply for MSC certification for member vessels fishing for North Sea herring, Atlanto-

Scandian herring, and mackerel in 2008. A Code of Conduct for DPPO members adopted in 2007 that codifies good fishing practice addresses issues of importance to resource sustainability such as avoidance of untargeted species, including also ETP species, and collaboration with fisheries scientists.

Preliminary assessments of the VTQ system suggest potentially positive impacts on resource sustainability, with fewer vessels reducing the total effort, and with fishers trading and swapping rights to ensure a quota mix for each vessel that enables catches to be landed rather than discarded.

Fishing capacity versus fishing opportunities and the race to fish

ITQ and VTQ have changed the planning horizon of the vessel owners and skippers and reduced the 'race to fish' that existed under the previous ratio- and period-based management systems. The introduction of ITQ and VTQ also marks a move away from public money being allocated for scrapping of vessels (instead leaving it to the market). This has allowed for public funds from EFF to be used instead for innovation and investment in improved product quality and new fish products that yield higher prices.

Both the ITQ and the VTQ system have had significant impacts on rationalisation of the fleet. In the pelagic fleet the number of vessels holding herring quotas has been reduced by 150% since 2003 and now amounts to 34 vessels in total. Some vessels holding large ITQ shares are new and have replaced vessels more than 25 years old. The VTQ fleet has been reduced by more than 30 % since January 1st 2007 in terms of the number of active vessels (i.e. vessels making landings). This is primarily a result of pooling of vessels.

In a recent assessment of the capacity of the Danish fishing fleet the Institute of Food and Resource Economics (2008a) found a good fit between the overall capacity of the active part of the fleet and the fish resources presently available for Denmark. However, some structural changes within and between the fleet segments would be required to make the fit optimal.

Economic viability

The economic viability of the Danish fishing fleet has improved significantly with the introduction of ITQ and VTQ (Institute of Food and Resource Economics, 2008b). For the large pelagic vessels with ITQs (purse seiners) the average profitability since 2004 has been in the range of 25%. For the Danish fleet in total the profitability in 2007 was 16%, up from an average of 9% for the years 2004–2006. This increase is despite an overall 7% reduction in the quotas of fish for consumption from 2006 to 2007 and a 25% reduction in quotas of fish for fish meal and oil.

Protection of small-scale fisheries

The Danish VTQ system includes a sub-programme aimed at protecting coastal fishers. This programme allows small-scale operators with VTQ vessels up to a maximum length of 17 meters to obtain additional rations of fish species under quota regulation. (see Box 2 in the Catalogue).

The VTQ system also includes provisions to enable new entrants to the fisheries. Each year a small percentage of the national quotas are set aside in a 'New Entrants Pool' from which new entrants can obtain quota loans for a period of up to eight years. The VTQ system also allows new entrants with a registered fishing vessel to buy up to 25% of the quotas of an existing VTQ (see Box 4 in the Catalogue).

Discarding

Since the introduction of the VTQ system there has been extensive trading and swapping of quotas to provide each active fishing vessel a quota mix that enables all the components of mixed catches to be landed rather than discarded. However, quantitative information on this outcome is not yet available.

Box 32: North Sea beam trawl: Netherlands ITQs and Belgium CQs

This case study compares the outcomes from examples where fleets from two Member States target the same resource, with similar fishing methods, but operate under different RBM systems. The Dutch and Belgian beam trawl flatfish fisheries target the same species (mainly sole, plaice and cod) and stocks using the same fishing gear. Moreover, the two management systems have evolved in parallel with perhaps only one major and crucial difference between them: Belgium has taken a position against transferability of fishing rights while the Netherlands introduced ITQs in 1975.

Sustainability

Both fleets target overexploited stocks, which are under recovery plans and whose biological status has worsened over the past ten years. It is difficult to see major differences between the two systems in terms of conservation success. As they have evolved, both systems have had a positive impact on conservation with respect to compliance with national quota, even if the stock status of some resources has continued to deteriorate. In both cases, analysis of impacts and outputs of each system is made difficult because each individual country does not have the control of the full process (the way TACs are set, compliance of other countries with quota regulations, etc.), while these externalities have a direct impact on the success of national management systems.

Fishing capacity versus fishing opportunities and the race to fish

In the Netherlands, the ITQ system was introduced in 1975 for the two major target species of this fishery in the North Sea: plaice and sole. Initially the system was not very successful and the administration was not prepared for the large system needed to keep track of landings of individual vessels in Dutch and foreign ports. The race for fish was not eliminated; the Dutch fleet expanded, both in terms of total capacity (in horsepower), in supply of fish (in weight and real value) and in employment. Heavy investment in the fleet, financed through easily-accessible loans, resulted in overcapacity and many fishermen faced a significant discrepancy between their fishing rights and their fishing capacity. Non-compliance and false landings declarations resulted (Smit, 1997), with catches continuing to exceed the national quota.

Belgium opted initially for a collective quota management system. The management system was centralised but based on a bottom-up approach. During the late 1970s and 1980s, the number of vessels in the Belgian fleet decreased drastically, but fishing capacity (mostly engine power but also length) increased considerably.

Around 1987, the capacity of both countries' fleets peaked. At the end of the 1980s both countries were forced to intervene to improve the control of fishing capacity and their level of quota consumption, bringing in a range of supplementary measures. In the Netherlands in 1987 enforcement efforts were intensified, the system was

strengthened through licensing, input management (maximum days at sea) and maximum gear width for double beam trawlers and engine power restrictions. The Belgian Government put a limit on fleet size through a licensing scheme, input restrictions on engine power and days-at sea, and moved towards an IQ system. These measures resulted in reductions in fleet capacity in both countries.

In the Netherlands, the days-at-sea restriction had a strong impact. The sector responded by decreasing the fleet, mostly by quota- (or flag-) hopping (only a small part of the reduction was supported by decommissioning schemes). This concentrated the quotas onto a smaller number of vessels, which gradually also opened opportunities for more days-at-sea per vessel. However, these regulations (limited access and input control) were not sufficient to reach the twin objectives of establishing an effective system of quota compliance (and hence the underlying objective of biologically sustainable fishery), and an economically viable and competitive fishing fleet and fishing economy as a whole.

The introduction of IQs based on kW in Belgium resulted in a rapid rationalisation of the fleet; the number of vessels reduced quickly (from 209 in 1990 to 107 in 2006), although fishing capacity fell only slightly. Despite the fact that transferability is not allowed, fishers have an opportunity to increase their share of quota by acquiring a vessel that has been withdrawn without public aid. The registered engine power of the withdrawn vessel may be added to the registered engine power of an existing fishing vessel. In this way, the vessel owner receives extra catch possibilities for those stocks that are allocated in function of kW. As such, part of the value of quota is included in the price of a withdrawn vessel. This management feature was an extra incentive (other than decommissioning schemes) towards the rationalisation of the fleet.

Economic viability

In the Netherlands, the introduction of an ITQ system without an adequate management framework (to limit capacity and monitor catches) in place led to disturbances in the market (low prices, decreasing economic returns) for the fishing, the processing and the trade sectors (Smit, 1997). At the beginning of the 1990s, a co-management system was established as an extra step in the improvement of the ITQ system both in conservation and economic terms. Most (97%) of the beam trawl fleet joined the self-management 'Biesheuvel' groups (see Box 25) and by the mid-1990s, there was positive evidence of increased economic efficiency (increased prices, improved profitability of individual vessels, high price of quotas, higher volume of quota exchanges).

The Dutch ITQ system has improved over the last 15 years and there was an improvement in vessel profitability in the 1990s and signs of increasing extracted rent. However, the analysis of economic fleet performance in 2002, 2003, 2004 showed that Dutch beam trawler fleets (both >24m and ≤24m) are operating at an economic loss (negative net profit) (EAEF, 2004).

Both fleets suffer from high operating cost of the gear, rising fuel cost, and high dependence on overexploited resources. It is anticipated that the current Dutch ITQ system (with the opportunity to buy, lease and sell quota within Biesheuvel groups) gives flexibility to individual operators to adapt their strategy and will facilitate further rationalisation of the fleet with minimum state intervention. Nonetheless, in both countries, the effect of declining operating profitability is causing the value of fishing rights to sharply decline.

In Belgium, the non-transferability of IQs was considered important to avoid any additional increase in operating costs, which was a major issue faced by the beam trawl fleets in the late 1990s and the beginning of the 2000s. The EAEF study shows that both beam trawler fleets (>24m and ≤24m) have a small positive net profit (EAEF, 2004), although another study shows that both fleets were operating at loss in 2004 and 2005 (Despestele *et al.*, 2007). In 2007, partly due to the fuel crisis, but also a reflection of the general economic status of the fleet, the value of a kW dropped to about €250 and prices paid for vessels decreased considerably. In 2000, some vessel owners paid eight times this value per kW.

Protection of small-scale fisheries

The flatfish fishery in the Netherlands is not considered to be a small-scale coastal fishery. The restriction of transferability in the introduction of IQs in Belgium aimed to protect the vessels of the small-scale sector which can operate only within a limited radius. In allocating North Sea sole quotas on an individual basis, the group share for the small-scale segment was calculated on the basis of the historical share of the catch.

Discarding

In the Netherlands, discards are high in the bottom trawl fishery. Some discarding results from quota limits. While ITQs provide a mechanism to reduce such discards, the limitations of transferability may reduce the potential benefits of this effect. ITQs do not help directly to reduce discarding of undersized fish. Other mechanisms that appear to be having a beneficial impact on discarding are reduced fishing effort and measures taken by fishers to reduce discards (i.e. fishing techniques).

In Belgium also, discarding may occur of either undersize catch or if the quota limit has been reached. To limit this effect, the Quota Commission of the PO formulates recommendations on quota management and the level of bycatch, for species where a catch limitation on a vessel basis exists. Quota swaps between Member States is another approach to reduce discards. Alternatively, vessel owners who have more plaice quota available can also choose to fish in the central North Sea, where the abundance of plaice is higher and the abundance of sole is lower.

Box 33: Gulf of Lions trawler fleet: Limited licensing in the French Mediterranean

This case study focuses on the outcomes in a fishery managed through limited licensing, which continues to be a major part of fisheries management systems within the European Union, particularly in the Mediterranean, where there are no TACs (with the exception of bluefin tuna). The hake fishery in the French Mediterranean is a typical example of what a licensing system (supported as necessary by other management measures) can and cannot achieve, in particular with respect to the objectives of the CFP.

There is, to date, no hake management plan as such. Instead, fishing activity is managed on the basis of a licensing system where licences allow trawlers to undertake both pelagic and demersal trawling. This system is used in the Gulf of Lions to try to adjust the fishing effort of the highly polyvalent trawler fleet between the demersal and pelagic resources, particularly because the former are considered to be fully exploited. It has long been clear, however, that, on its own, such a licensing system is insufficient and hence it has been supplemented by other management measures, the objective of which is principally to reduce the efficacy

and increase the selectivity of both the vessels and their gear. Some use has also been made of decommissioning to reduce the number of licences. An important feature of the licence is that trawlers must have an engine power less than 430 HP and be less than 25 metres long. Other standard supplementary management measures include a minimum mesh size and a ban on trawling in coastal areas, broadly speaking within 3 miles.

A fishing calendar, based largely on propositions put forward by the fishing industry, has also been introduced. This imposes a number of restrictions on fishing activity, such as no fishing at weekends, fishing days restricted to between 03.00hrs and 19.00hrs (with some very minor variations in some ports) with an obligation to land catch daily, and further extra fishing bans (e.g. in Sète, the principal port for trawlers, fishing is banned during the Christmas and the New Year period and also around St. Peter's day). In total, these extra closures reduce fishing time by 2 to 3 weeks per annum.

Sustainability of the resources

The overall effect of the licensing scheme, which has limited the number of fishers, together with supplementary measures, which have limited to some extent the effectiveness of the fishing activity and in particular the operating area of the trawlers (even if the refuge hypothesis has still to be confirmed), has been to enable the hake fishery to continue sustainably over a number of years. This is the most valuable single fishery in the French Mediterranean. In maintaining the production, the management system has contributed to CFP goals in particular of conserving fish stocks whilst promoting the continuation of professional fishing activities in Community waters.

The fishing calendar has the effect of substantially reducing the effective fishing time compared to that which would be available in an unregulated system. More importantly, by restricting daily fishing time, the system limits the area that the trawlers are able to exploit and in effect creates a refuge area in the zone which is outside of their operational range.

In the case of the hake fishery, this refuge includes a number of deep-water canyons that are important reproduction and nursery areas. These canyons, which may be over 50 km long, are important habitat for the biodiversity of the coastal area and the continental shelf. It would appear that the fishing calendar implemented by the fishermen has protected these canyons which have continued to ensure adequate recruitment to the fish stock. The role played by these canyons is the subject of a study being undertaken from November 2008 by the Marine Protected Areas Agency (which is part of the French Ministry for Ecology, Energy, Sustainable Development and "Aménagement du Territoire"). It is particularly important to understand this role given that a fleet of Spanish longliners operate in the Gulf of Lions, targeting in particular hake in the submarine canyons of the continental shelf at a depth of 160m to 500m.

Fishing capacity versus fishing opportunities and the race to fish

The licensing system suffers from the problems that tend to undermine licensing systems the world over. In particular, a licensing system has problems dealing with the race for fish, which leads to 'capital stuffing' of various kinds as fishers seek to enhance the effectiveness of their vessels within the licence constraint. For example, newer trawlers tend to be much larger (in volume terms) than those that they replace within the 25m length constraint (and most vessels have engines fitted that are considerably more powerful than 430HP). The use of Kort nozzles is also

widespread, and there has also been substantial investment in electronic equipment. As a result, technical creep has been estimated to be in excess of 1% per annum (Kirkley et al, 2004).

Economic viability

It is also difficult to evaluate economic viability within the licensing constraint because fishers are free to switch target species, which they tend to do from time to time depending on the catch rates of different species and their markets. In particular, when anchovy catch rates and prices are good, there is a tendency for a substantial proportion of the segment to switch to targeting this species. The use of broad definitions of segments does not facilitate management. It does seem clear however that the economic viability of the segment is relatively weak; in particular its resilience to shocks is quite limited as was demonstrated recently by the (very great) increase in fuel costs. Furthermore, there is a high level of government subsidies in French fisheries, where subsidies represent 18% of the landed value of the fish (OECD, 2004). This cannot be disassociated from the economics of the fleet.

Protection of small-scale fisheries

This fishery is aimed at a specific fleet segment and many of the management measures are aimed at protecting small-scale fisheries (e.g. limits on vessel size). The management scheme has also contributed at the social level by keeping a greater number of fishers in activity than would probably have been the case under management schemes focussed more directly on the economic performance of the fleet.

Discarding

As with any trawl fishery, some discarding occurs. However, in the past, this problem has been relatively limited due to the fact that there is a very strong market for small-sized fish. As a result, juvenile hake (and other high-valued species) have tended to be landed and sold. Despite this, the stock has apparently remained in good condition which raises interesting questions about management strategy. For the moment, the approach is to try to protect juveniles by increasing mesh size and banning sales of small fish. There does not seem to have been a bioeconomic study of such a strategy compared with other options.

Box 34: Resource rent generation in Nordic Fisheries under various RBM systems

The Nordic Council funded a research project *Focus on the economy in the Nordic Fisheries. Case study reports from Iceland, Norway, the Faroe Islands, Sweden and Denmark* (Neilsen et al., 2007), which analysed the resource rent generation of five fisheries with different associated rights for the 2001–2003 period:

1. ITQ managed trawl fisheries in Iceland (76 vessels)
2. IQ managed coastal fisheries in Norway (1,145 vessels)
3. ITE managed Faroe Island pair-trawl fisheries (29 vessels)
4. Catch ratio managed Swedish pelagic fisheries (57 vessels)
5. Limited License managed Danish blue mussel fisheries (63 vessels) (see also Box 35).

Economic viability and resource rent

A positive resource rent implies that labour and capital are better rewarded in the

fisheries sector than in the other productive sectors of society whereas a negative resource rent indicates the opposite.

Even if the resource rent is influenced by factors such as resource productivity and product prices it is plausible to compare the fisheries mentioned from a rights perspective. The Iceland ITQ case was associated with strong rights and was therefore expected to generate a high resource rent. The Norway case related to rights that were non-transferable. As it is the transferability that enables the individual fisher and the industry at large to adjust fishing capacity and fishing effort in the short and medium term and thus to generate resource rent, the expectation was that non-transferability results in a lower resource rent. The Faroese case had strong rights even though it was an effort-based management system, which is therefore susceptible to long-term problems related to increases in productivity (technology creep). The Swedish ratio system had low exclusivity, because the pelagic fishery at the time of analysis was open to other fleet segments. In fact the ratio system in the Swedish pelagic fisheries was abolished in 2007 with the introduction of an IQ system. The Danish limited license blue mussel fishery has developed strong rights over time through limitation of the number of licences and strict regulations on entry, capacity and fishing effort.

The findings of the project with respect to resource rent (%) were as follows:

	Iceland	Norway	Faroe Islands	Sweden	Denmark
Resource rent	28	-34	20	-20	44

The resource rent is highest in Denmark followed by Iceland and Faroe Islands. These countries have strong rights. Norway and Sweden, both with weak rights, showed negative or low resource rents and could not cover the management costs. These empirical findings demonstrate a clear link between the management regime and the opportunity for profitable fisheries.

Box 35: Limited Entry Licences for Danish blue mussel

The blue mussel fishery in Denmark is a single species, single fleet fishery. Fishing vessels are small and all use dredges. The total annual landings of mussels have been between 55,000 and 111,000 metric tonnes in the last eight years. The main management instruments used are vessel entry restrictions, capacity limitations (expressed in terms of engine power, length, breath, draught, and tonnage) and individual quotas. The total number of licences is restricted to 62. In agreement with the fishers, weekly and daily quotas per vessel are set by the Directorate of Fisheries. A minimum size of mussels also applies.

Sustainability of the resources

Although stock estimates are carried out, they serve as indicators for the sustainability of the stocks and not for the determination of quotas. Thus no TAC is set for the mussel fishery. There is a strong element of co-management through direct involvement of the fishers in the management of the fishery. Formerly, the weekly quota in the Limfjord area was set at 110 tonnes per vessel, but the fishermen claimed that a lower level was needed, which was then approved by the

fisheries authorities.

Fishing capacity versus fishing opportunities and the race to fish

There is no 'race for fish' in this fishery. The fishermen themselves decide the number of fishing days (with regard to the daily and weekly quotas) as well as deciding when the season will start and end. The fishing capacity restrictions are sufficient to restrict effort to a level which ensures a biomass above critical biological limits. The number of licences is unlikely to increase in the future.

Economic viability

The Danish mussel fishery is very effective economically. Resource rent, after deduction of public expenses (management costs) was 44% in 2001-2003. Total remuneration amounted to DKK 114 million (€19 million) corresponding to 85% of the total landing value; whereas total remuneration in alternative use averaged DKK 34 million (€4.5 million); i.e. 25% of the total landing value. The difference between these two values, DKK 80 million (€11 million), gives the current resource rent *before* the deduction of net public expenses. This is a significant positive value corresponding to 60% of the total value of landings (see also Box 34).

Protection of small-scale fisheries

The fishery is undertaken by small-scale operators only. Licences are automatically renewed. This provides the fishers involved with a high level of security. Limited opportunities for new entrants exist, however a change in ownership of existing vessels by crew members or relatives is normal.

Discarding practices

No information on discarding practices in the mussel fishery was available. However, undersized mussels are reset.

Source: Laursen Cozzari *et al.*, 2007.

Box 36: Community Quota for Portuguese sardine

The Atlanto-Iberian purse seine fishery for sardine is the most important resource in Portugal in terms of economic value (33% of the total national value) and landings (36% of the total national landings). A co-management approach that involves POs is currently in place and has allowed authorities and the ten POs involved in purse-seining to ensure the control and surveillance of the sardine fishery.

Sustainability of the resources

Sardine is co-managed under the 'Action Plan for Sardine'. This plan aims at wider protection for the juvenile component of the stock, and regulates harvesting and marketing. The sardine fishery is currently being assessed under the standards of the Marine Stewardship Council (MSC) certification. This indicates that they are confident the resource is in good shape and sustainable.

Fishing capacity versus fishing opportunities and the race to fish

The measures adopted include restrictions on catch and catch handling and marketing, complemented by technical restrictions such as a ceiling of 180 days per year for fishing activities, bans on fishing at weekends, closed areas, and an average ceiling of 75,000 tonnes for the POs (there is no TAC for sardines). Authorities also grant management rights to POs that are consequently empowered to impose restrictions (i.e. daily catch limits) on fishing boats. POs play a key role in that

assessment and boats that do not belong to a given PO will not be considered as part of the evaluation.

Figure 1 shows a decline in fishing effort (days) and Figure 2 shows a drop in the number of vessels over the period 1998 to 2004. This reduction has been linked to the management measures described above and a consequent reduction in the race to fish. The restriction on days per vessel (180 days per year) imposed by the POs ensures that effort per vessel does not increase. Landings have also fallen and have not surpassed the 75,000 ceiling since 2000 (Figure 3).

Economic viability

Despite the reductions in effort and fishing capacity, profitability has fallen (Figure 4). This may be due to increases in operational costs, particularly high fuel prices.

Protection of small-scale sector

This is a small-scale activity thus all management measures have been devised to protect the interests of the small-scale owners.

Discarding

No information on discards is available. However, it seems that due to the nature of the fishing activity, based on a single species, discards might be related to an excess of fish that may push prices down. In that context, The PO has as a primary goal to ensure good market prices for their associates. The POs have procedures to prevent price dumping by freezing excess fish and releasing them to the market during the closed seasons. These market mechanisms may prevent discarding of fish when prices are falling.

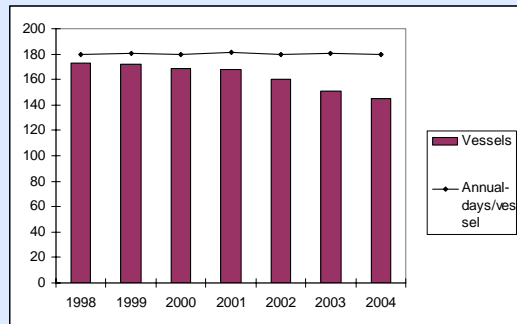
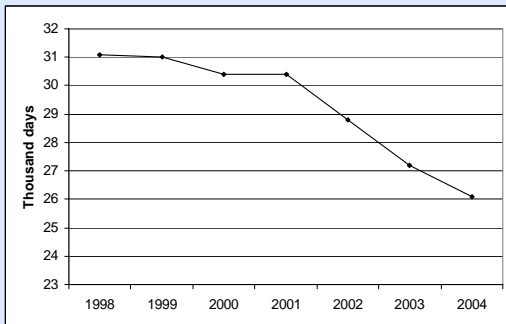


Figure 1. Fishing effort in the Portuguese sardine fishery. Source: EU. Own elaboration.

Figure 2. Fleet capacity and average effort levels per vessel in the Portuguese sardine fishery. Source: EU, Own elaboration.

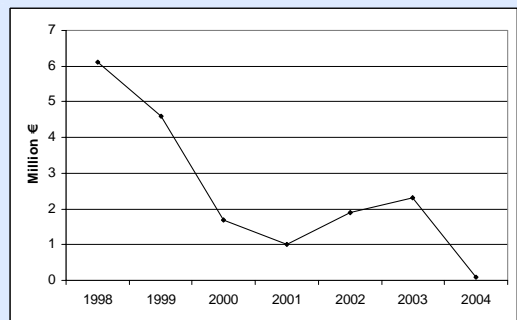
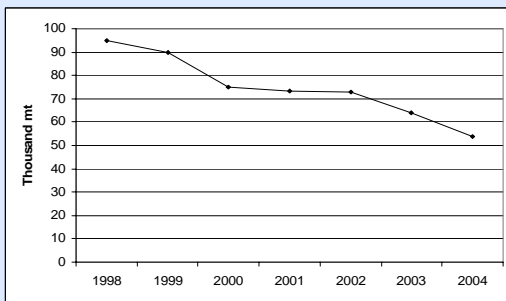


Figure 3. Total landings in the Portuguese sardine fishery. Source: EU. Own elaboration.

Figure 4. Profitability in the Portuguese sardine fishery. Source: EU. Own elaboration.

Box 37: Clam consortia and self-management in Italy (TURF)**Sustainability of the resources**

The clam fishery is one of the most important fisheries in Italy in terms of landings and represents 6% of the total value of national landings. The TURF and self-management approach applied in the clam dredge fishery in Italy is a good example of how close control of landings and implementation of technical measures such as minimum sizes, closed seasons and areas can promote sustainability. Figure 1 shows a diminishing trend in landings since the implementation of the Consortia self-management approach.

Fishing capacity versus fishing opportunities and the race to fish

The decommissioning scheme implemented by the Italian Government reduced the fleet size. Figures 2 and 3 show decreasing trends in capacity and fishing effort respectively over the period 1998 to 2004. These factors may have helped reduce catches, leading to higher market prices, and an overall increase in landings value since 1998 (Figure 4).

Economic viability

Improved organisation of fishing activities may have also reduced costs and thereby improved profitability in the sector. Profitability is highly variable, but has shown an overall increasing trend since 1998 (Figure 5). Higher profitability is reflected in an increase in the values of a fishing licence for an active dredge. In 1996, when decommissioning schemes began, the value of a dredge licence was €130,000. By 2002, it had more than doubled to €300,000, indicating a positive impact of the RBM on the value of access rights to the fishery. This is despite the ageing of the fleet: in 2005, 50% of the fleet was more than 20 years old.

Protection of small-scale sector

Although highly mechanised, this is a small-scale fishing activity. Boats are 12–18 m in length and employ only two men. The only measure applied to protect this small-scale fishery is that aquaculture of clams and other bivalves can only undertaken in lagoons, leaving the coastal areas reserved for dredges. In addition, decommissioning schemes included measures to prevent social problems which could have been caused by the reduction of the fleet. In the period 1996–1998, fishers leaving the fishery received a compensation of €6,500.

Discarding

No discard information is available for this fishery. However, technical measures are devised to prevent harvesting of undersized individuals and thus minimise discards.



Figure 1. Landings of Italian clam fisheries 1998-2004. Source: EU. Own elaboration.

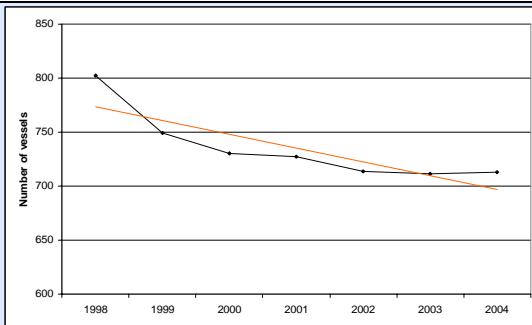


Figure 2. Fleet size in Italian clam fisheries 1998-2004. Source: EU. Own elaboration.

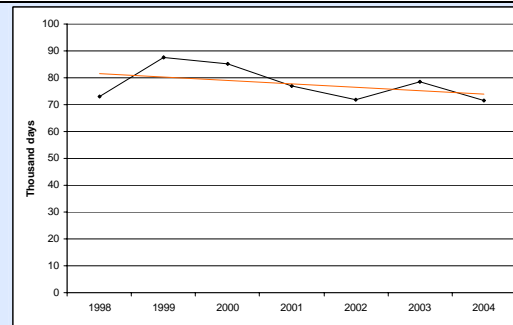


Figure 3. Fishing effort in Italian clam fisheries 1998-2004. Source: EU. Own elaboration.

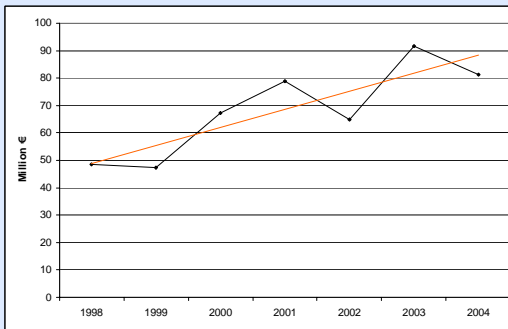


Figure 4. Landed value of Italian clam fisheries 1998-2004. Source: EU. Own elaboration.

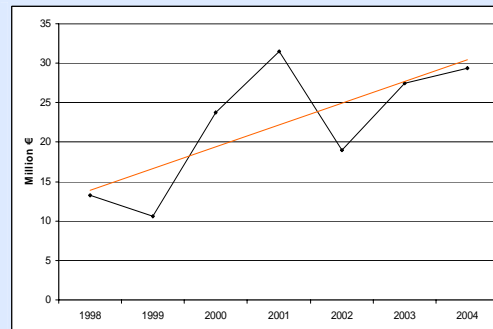


Figure 5. Profitability of Italian clam fisheries 1998-2004. Source: EU. Own elaboration.

Box 38: Comparison of IQs in Poland and ITQs in Estonia

Sustainability of the resources

In Poland, fishing pressure on coastal fisheries (e.g. herring, turbot, and sprat) is generally low. Cod stocks that are targeted by the Polish fleet have been associated with high fishing pressures and are under recovery.

The Estonian fishing fleet managed under ITQs fishes offshore for herring, sprat and cod. Herring is considered by ICES to be harvested sustainably. The cod stock which is caught by the Estonian fishermen, but at the same time also by many other states around the Baltic (including Russia which sets its own TACs), is considered to be harvested sustainably. According to ICES, the sprat stock is at risk of overfishing.

Fishing capacity vs fishing opportunities and the race to fish

In Poland, landings from the cod fishery have sometimes exceeded the national quota. In the last two years, Poland's quota was exhausted during the first half of year and the fishery was closed to all vessels under the Polish flag. Under Regulation 107/2008, the EC deducted 8,000 tonnes of Poland's cod quota over four years starting in 2008 (800 tonnes in 2008 and 2,400 tonnes in 2009–2011). The management system does not appear to be working well in terms of sustainable exploitation of stocks. There appears to be substantial over-capacity in the fleet, and as a result the race to fish still exists, leading to early overshooting of the quota.

In Estonia's ITQ system, fishing companies swap quotas between each other under the supervision of the Ministry of Agriculture. It is all also possible to trade future rights to

catch and swap quotas. This system functions successfully, mainly due to the small size of the sector. Fishing opportunities have been allocated to companies according to historical fishing rights, which has resulted in a stable and sustainable fishery. Due to the stability and predictability of this system there is no race to fish in Estonia.

Economic viability

In Poland, IQs are used for managing fisheries for cod and salmon by vessels over ten metres in length. This sector receives about 90% of Poland's total quota. The remaining portion is allocated to small scale (<10m) vessels (see below). Each year the vessels' agents complain about the size of the quota. There have been attempts to introduce different methods of quota distribution between agents but no method has been fully approved by the sector. Fishing companies complain that the quota is not sufficient to cover their costs, so the fishing is not economically viable. This is an indication of continued overcapacity in the fleet.

Taking into account the influence of the ITQ system in Estonia on economic performance, the profitability of fleets has increased. The fishing capacity of the fleets is better matched with the fishing possibilities, which has ensured stability in those fleet segments. In 2001, when the ITQ system was introduced, there were 154 registered fishing vessels fishing in the Baltic. In 2009, the fishing vessel register contained 71 vessels operating in the Baltic; only 20 of the vessels were removed from the register with the support of a scrapping premium.

Protection of small scale fisheries

Every year, a block of approximately 10% of the total Polish quota for cod and salmon (the most in demand stocks) is set aside for allocation to small-scale vessels (under 10m in length, see table below). To obtain a block quota fishing permit there is a requirement to catch the specific stock in previous years (detailed rules change each year). From 2008, vessels under 8 m length will no longer be required to do this in the case of cod quota. In the case of sprat and herring quotas, small vessels are given the block quota under the same rules as the other vessels.

Block quota for small scale fishing in Poland		
Year	% of total cod quota	% of total salmon quota
2005	6 %	9 %
2006	6 %	10 %
2007	6 %	10 %
2008	10 %	11 %

The system is designed to cover all the needs of this sector (particularly economic viability). The main problem is in the quota reporting. Under the Polish fishing law, all vessels under 10 m length are required to submit a monthly catching report to the Polish Fishing Monitoring Centre in Gdynia. As it takes time to process all of the reports that are submitted, it can lead to over-shooting of the block quota and also of the total Polish quota. Because of this, the pace of the race to fish has not changed significantly. It is also difficult to control all the small vessels because they operate from small ports where there are not enough fishing inspectors.

In Estonia, the fisheries covered by the ITQ system are offshore fisheries. However, it is worth mentioning that there are also systems in place to ensure the sustainability of the small scale coastal fisheries. These include:

- different RBM system – no individual catch quota, just effort quota and/or block quota;
- a divided coastal zone – vessels from the offshore zone cannot fish in the coastal zone, to help protect the fishing ground; only flounder vessels are allowed to enter

- deeper waters;
- no obligation of prior notification of coming to port;
 - no VMS system for vessels smaller than 15 m; and
 - log books have to be sent just once per month to the Ministry of Agriculture.

Discarding practices

Discarding is not a major issue in the IQ managed Polish fleet, with a low amount of undersized fish being discarded. In Estonia, as there is a minimum landing size for cod, discards of undersized fish still exist.

4.4. Lessons Learned from RBM in the EU

The first and perhaps most important lesson learned from the case studies and more broadly from the project as a whole is that RBM systems within the EU are not specifically aimed at meeting the objectives of the CFP, but are generally tailored to local circumstances and objectives. Rights to fish take many forms and, unsurprisingly, RBM systems have evolved independently and diversely in most parts of Europe and may be significantly driven by local business and/or political needs. Nevertheless, RBM systems have contributed to sustainable biological productivity and improved economic performance of some fisheries where rights are exclusive, easily enforceable (secure), long term and tradable.

However, the benefits of RBM systems have proved difficult to demonstrate for the international marine fisheries governed by the CFP. Here, the principal instruments for control are TACs and technical measures set at the European level. TACs are divided among countries by fixed political agreement, using the principle of 'relative stability', (although annual quota can be adjusted by quota swaps negotiated between countries). Rights' allocation occurs within countries for the purpose of partitioning the available national quota among the fishing interests within that country. These national RBM systems can help to rationalise national fishing effort even though some systems are cumbersome, complicated, and expensive to administer. However, their contribution to the economic efficiency of fishing, to the slowing of the race to fish, or to motivating better husbandry of international stocks can be undermined by the non-exclusivity of access (essentially a problem of design), and/or poor implementation.

A pattern is apparent among quota managed fisheries (Figure 7). In cases where catches do not exceed the overall quota a common quota pool may be sufficient, however, as competition for quota is increased, so quota allocations and ITQs become the management tools of choice. However, while there are benefits in moving towards management systems that provide higher quality rights for participants, the approach is not an automatic panacea for ailing fisheries. RBM systems with high Q-values, such as ITQs and TURFs will not necessarily provide the best outcome for all fisheries. It is better to think in terms of developing RBM systems through a process of evolution, supported by additional measures both to encourage desirable outcomes, such as reduction in over-capacity, and to mitigate undesirable outcomes such as concentration and/or marginalisation of small scale operators.

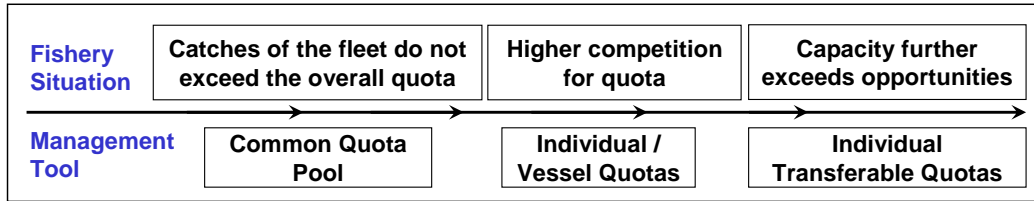


Figure 7 Pattern in quota managed fisheries

A vital factor in reaping the benefits of RBM is an industry that demonstrates a responsibility for stewardship of the resource. This was an important element in the success of ITQs shown in the Danish pelagic fishery. In this example, capacity reduction has been achieved without the need to allocate public money, good stewardship has been promoted from within the local producer organisation and fisheries remain profitable. By contrast, in the Netherlands case, ITQs performed very poorly in the 1970s and '80s because of an initial failure to effectively limit fishing capacity and monitor catches. More recently, the system has improved significantly through the establishment of co-management-type framework that has increased both responsibility and compliance (van Hoof, 2008), but the beam trawl fleet is still operating at an economic loss, largely due to high operating costs.

Involving the resource users in establishing and enforcing management measures can have significant benefits across a range of fishery types and regions. With respect to TURFs, there are a variety of institutional structures that can be used for their implementation, including associations, consortia, groups of users and POs, which can be involved in co-management approaches as platforms to launch technical measures to enhance resource sustainability. Where the establishment of TURFs involves the exclusion of previous users of the resource it must be carried out in an equitable manner, and compensation should be provided where appropriate.

Three of the four attributes used to characterise RBM systems, namely exclusivity, security and validity have been shown to be essential. If any one of these is reduced to zero, the right becomes essentially worthless. However, while transferability can have multiple benefits, it is not essential and Member States have shown different approaches to its implementation. Some element of constraint on transferability is common, to protect national interests and implement national policies, but markets in rights develop naturally where the rights have a clear value.

Aside from allowing the exit of less profitable operators from the fishery, transferability can be beneficial in mixed fisheries such as in the North Sea, because vessels can obtain the optimal mix of quota to maximise profitability and minimise discards. This mechanism appears to have been particularly active in the Danish VTQ system for demersal fisheries, now replaced by an ITQ system, as of January 2009.

In IQ systems, where there is a specific concern to restrict transferability (e.g. the Belgian flatfish fishery), similar outcomes to those of ITQ systems (reduction in capacity, reduction in the race to fish, and obtaining an appropriate mix of quota) can be achieved by other nationally-implemented measures, such as vessel decommissioning schemes and national quota swaps. This requires more input (time and resources) from the central authorities, rather than allowing the market to act. In Poland, the problems of overcapacity and the race to fish remain in the IQ-managed coastal fishery. The offshore fishery in Estonia, managed using ITQs, however, now

has fishing capacity that is well matched with fishing opportunities and the profitability of the fleet, although low, is increasing.

A number of Member States have purposely restricted transferability of rights with the aim of protecting national fishing interests, small-scale fishers and fishing-dependent communities. Even in systems where transferability is significant (e.g. VTQ and ITQ systems) there are often systems in place to ensure the protection of small-scale fishers and to ensure the possibility of new entrants to the fishery, such as allocating a proportion of national quota to the small-scale sector, and reserving a part of the quota for new entrants in order to build up a track record.

In the case of quota-managed fisheries, of concern at the Community level is the possible impact of quota trading on the capability to monitor and retain control over quota ownership and uptake. Current case law indicates that Member States can limit quota entitlement to entities with an economic link to the Member State, although such rules must be non-discriminatory. Such arrangements could be extended to a more regional model. In this regard it is also worth considering the distinction between quota ownership and use rights. Essentially the Member State could retain the ownership of the quota that is allocated to it by the EC, maintaining relative stability, while the right to use a portion of that quota allocation is what is sold, leased, or otherwise transferred between participants in the fishery. A more restrictive approach would be to allow only in-year quota allocations (not the use rights themselves) to be traded between participants. No matter to whom the quota is transferred, the Member State owner needs to be in a position to continue to meet its obligations under the CFP in terms of compliance with its quota limits.

The requirement for extensive management and monitoring of quota uptake in quota-based RBM systems can be a problem for some Member States and some lower value or small-scale fisheries. Administration costs include the costs of trading rights among owners, the costs of other organisations such as POs and national authorities which are also involved, plus the costs of record keeping and enforcement without which there is no security or exclusivity of rights. These costs are on top of the costs of managing the fisheries generally through monitoring and the setting of TACs or other controls. Reliable information on all of these costs is very hard to obtain across all countries but is relevant to the assessment of economic efficiency. Cost-benefit analysis of any proposed changes to RBM systems is highly desirable. Involvement of executives from the fishing industry and POs would probably assist the collection of cost information. Also of importance, is the careful consideration of cost recovery at an early stage in the design of any new RBM system.

It appears that moving towards IQ and ITQ management systems is best viewed as an iterative process that can require a substantial period of time, and the resulting management system may be made up of a range of input and output measures, both RBM and non-RBM. The use of combined mechanisms of decommissioning schemes and RBM can support effective capacity reduction, deterring the race to fish and allowing for the modernisation of the fleets. While effective provisions for scrapping vessels may support the removal of the poorest performers in the fleet, the efficient allocation of high-quality fishing rights supports the improved economic performance for those who remain in the fishery. For example, the management of the Spanish 300 fleet has recently moved to ITQs, but the active decommissioning process that took place well before ITQs replaced the individual effort quotas was a significant management success.

It is important to ensure that decommissioning follows OECD guidelines and that the capacity cannot re-enter the fishery, or another fishery, after being withdrawn.

However, decommissioning schemes are expensive and capacity reductions have been achieved also through market measures (i.e. transferability of rights) at minimal public cost, such as in Denmark, freeing up resources to be invested in research and innovation for the sector.

As shown by the example of the French Mediterranean Gulf of Lions trawl fishery, more straightforward, and potentially cheaper to administer, licensing systems can be an effective means of managing fisheries, when complemented with other management measures to reduce efficacy (in terms of fishable area in this case) and increase selectivity of both the vessels and their gear. The race to fish remains a problem, however, resulting in technical creep that needs to be carefully monitored.

RBM systems do not avoid the need for sound scientific data about fish and fisheries. ITQs, for example, need an annual stock assessment and the setting of a TAC. Unfortunately, both of these scientific aspects have been criticised extensively under the current CFP management system. However, if RBM successfully reduces fishing pressures on a stock, the need for TACs to be highly accurate to avoid stock collapse can be reduced somewhat. Effort-based rights, such as ITE, might prove easier to manage in some fisheries but, similarly, the technical aspects of evaluating the effort attributable to different types of gear are substantial.

4.5. Conclusions and further research

4.5.1. Assessing best practice

Determining best practice across such a wide range of fleets and stocks is no simple task. It is important to reiterate that the range of species, fisheries, fleets, communities and administrations is too diverse to be able to identify best practice that would apply to all situations. More data could be collected to investigate patterns in cause and effect, but at present, the most productive line of research has been to study specific cases with the aim of deriving lessons learned that are likely to be applicable elsewhere.

Nonetheless, both the analysis in Section 4.2 and the case studies in Section 4.3 provide valuable insights into quality of rights and lessons learned for different fisheries, fleets and EU regions. The case studies in particular provide examples of how different management systems have attempted to overcome obstacles, whether they are ecological, social or economic. In cases where they have proved successful, they could be seen as best practice for similar fisheries or stocks in other regions. Thus, grouping similar fisheries and/or stocks such as the Mediterranean fisheries inshore sedentary stocks or quota-managed stocks in the North Sea can allow comparisons between management decision success and failure.

4.5.2. General conclusions

In addition to the specific lessons learned described in Section 4.4, the following general conclusions with respect to developing best practice in RBM systems emerge:

- **Local conditions:** RBM systems need to be tailored to local circumstances and objectives.
- **Scientific requirements:** A sound scientific basis for establishing exploitation limits is important for any management system. For quantitative RBM systems this requirement may be even greater. For example, management through ITQs requires accurate real-time specification of TACs, adjusted annually in response to stock fluctuations.
- **Cost-benefit assessment:** Sophisticated RBM systems can be costly to implement and maintain. Such systems may be economically warranted only for large, valuable resource stocks.
- **Economic performance:** Previous research has shown resource rent generation is highest in those systems that have the highest quality rights. Systems with weak rights showed negative or low resource rents and could not cover the management cost. These findings showed a clear link between the management regime and the opportunity for profitable fisheries.
- **Avoidance of overcapacity:** The OECD recommends that fisheries management systems are designed to prevent overcapacity and overfishing from occurring, and that there should be appropriate incentives for fishers to automatically adjust fishing capacity and effort, so as to avoid the use of expensive decommissioning schemes where possible. RBM systems that do not lead to a natural reduction in excess fishing capacity should be augmented by active decommissioning schemes to promote an improved balance between fishing capacity and fishing opportunities. Schemes should not allow capacity, once removed, to return to the fishery and preferably should not require the use of public funds.
- **Precautionary management:** Fishery resources typically suffer from high unpredictability, which can lead to overfishing or collapse unless specifically allowed for. The fishing industry is also impacted by numerous factors which are outside of the control of any management agency or authority, for example, oil price or world currency markets. Even well-managed fisheries may suffer shocks from external factors, which can affect their economic performance.
- **Enforcement:** Rights require enforcement, because of the potential impacts of illegal activities. Without effective enforcement, exclusivity and security have little meaning.
- **Transferability:** Enhanced transferability of rights and improved flexibility in rights management may produce a reduction of redundant capacity and enhancement of efficiency. Nevertheless, even when a right is not officially transferable, if the right is valuable, stakeholders will find some element of the system through which this value can be expressed. In IQ systems, where there is a specific concern to restrict transferability, similar outcomes to those of ITQ systems (reduction in capacity, reduction in the race to fish, and obtaining an appropriate mix of quota) can be achieved by other nationally-implemented measures, such as decommissioning schemes and national quota swaps. This requires more input (time and resources) from the central authorities, rather than allowing the market to act. A number of Member States have purposely restricted transferability of rights with the aim of protecting national fishing interests, small-scale fishers and fishing-dependent communities. Even in systems where

transferability is significant (e.g. VTQ and ITQ systems) there are often systems in place to ensure the protection of small-scale fishers and to ensure the possibility of new entrants to the fishery, such as allocating a proportion of national quota to the small-scale sector, and reserving a part of the quota for new entrants in order to build up a track record.

- **Co-management and fisher responsibility:** Effective implementation will not be realised without the cooperation of fishermen in terms of design, implementation, and compliance. The industry needs to be empowered to take on responsibility for stewardship of the resource to ensure a sustainably future for fisheries. The use of POs not only as platforms for quota management but also as platforms to develop technical measures may enhance resource sustainability. PO management of markets for rights, when based on sufficient/necessary provision of information to Member states (e.g. quota uptake), can increase the ability of fishermen to adapt fishing strategies resulting in economic and social benefits
- **Government intervention:** Even in market-based ITQ systems, national authorities should establish the parameters and limits within which the system should work, and may wish to maintain the possibility for intervention should it be seen to not be functioning as expected. While longer-term rights are generally regarded to be higher quality, it may be prudent to include a 'sunset clause' to enable such intervention if necessary. An RBM system may be seen as a 'resource give-away', unless accompanied by a system of fair user fees. Mechanisms for cost recovery should be given due consideration at an early stage, as it is much harder to implement later in the process.
- **Markets for rights:** The existence and functioning of markets in the EU is bringing about considerable benefits in terms of resulting efficiencies and fleet reductions, in line with CFP objectives. However, Member States should be free to continue to impose limitations on the functioning of markets to protect vulnerable/dependent fishing communities. Stakeholders must be fully involved in decisions taken by Member States as to the establishment and development of markets for rights. With increasing value of fishing rights resulting from the development and functioning of markets, special provisions may be required to assist new entrants to the fishery because of increasingly high entry costs. It need not be necessary for State administrations to retain complete control over the monitoring of transfer markets.
- **CFP objectives:** The principal driver for many of the more sophisticated quota-based RBM systems in the EU has been Commission regulations establishing TACs and quotas for a number of species, and requirements to limit fishing capacity. RBM systems are usually not sufficient in themselves to meet the objectives of the CFP. This requires a range of fisheries management measures at different levels that may constitute a 'bundle' of rights. Likewise, implementation of ITQs does not necessarily lead to improved economic performance of the fleet and/or better matching of fleet capacity with fishing opportunities. Coherent policies in other sectors (e.g. economic development) are needed to avoid the undermining of RBM approaches.
- **National objectives:** These may impose constraints on the development of RBM, but do not necessarily undermine the meeting of CFP objectives. RBM systems need to be tailored to local circumstances and objectives. In this regard, moving towards IQ and ITQ management systems is necessarily an iterative

process that takes a substantial period of time, and should allow opportunities for stakeholder input and revision or modification of the system as it evolves.

- **Small scale fisheries:** Schemes for small-scale fisheries, such as a separate quota allocation, and/or prevention of consolidation can be implemented alongside ITQ systems and result in their protection and continued participation in the fishery.

4.5.3. Suggested areas of further research

This study has collected information on the existing RBM systems in coastal EU Member States. However a number of data gaps have been identified that have hindered the analysis of effects of RBM systems in the context of EU fisheries. A number of areas of further research and investigation therefore arise.

The available indicators of stock status and economic performance did not line up well with the RBM systems studied, therefore it was difficult to identify correlations and draw conclusions on the effectiveness of RBM systems in contributing to the achievement of CFP objectives. Further research to investigate economic fleet performance in more detail would be of benefit, based on RBM units (i.e. fleets targeting particular stocks under the same RBM system). This would help improve understanding of the effects of particular RBM types on economic outcomes.

Nevertheless, the lack of clear patterns showing benefits should not be a reason for not moving forward with RBM. Further detailed studies on the application of RBM to European fisheries would be useful. In particular, more in-depth studies with a regional focus looking at particular fisheries (e.g. mixed fisheries in the North Sea, inshore fisheries in the Mediterranean) would be useful to draw out specific recommendations for the particular fisheries and the Member States involved.

With regard to legal aspects of RBM systems, it would be useful to compare the legal framework for European RBM approaches in the case of fisheries that are subject to management under the CFP using IQs and ITQs and which are regulated on a number of different levels (EC, national law and regulations), with other developed countries which have introduced RBM on the basis of primary legislation that clearly enshrines the legal rights so created.

In relation to markets for fishing rights, there are a number of topics that could be further investigated:

- The evolution of market for rights in Member States, as opposed to the evolution of RBM systems themselves, including:
 - a. What have been the key factors that have impacted on the development of markets for rights and how they operate, and how/why?
 - b. Were there any particular organisations that were the main driver for the development of rights? If so what was the nature of these organisations (e.g. private, state, etc)?
 - c. Are trends resulting in increased use of markets inevitable? And to what extent have/should markets be regulated and/or allowed to develop naturally?
 - d. On the basis that markets may bring about a range of benefits, what can and is being done to improve/promote markets e.g. ability to trade within POs and/or individually, simplifying logistical issues around

State involvement while maintaining sufficient reporting or collaboration, POs having quota on dummy vessels to distribute to over-quota vessels?

- The extent to which tradable rights are actually being traded and transferred on the market. Questions could relate to the % of the number, value or volume of different types of rights that are being traded, leased or sold respectively (see Box 18 in Section 3.2.4 for an example).
- The value of rights, including, what is the current value of different types of rights in existing markets at the present time, and how have these values changed? And what have been the main factors determining any changes in values of rights traded? (e.g. reduced numbers of rights holders, stock status, changes in operating costs impacting on margins, etc).

The need for scientific data regarding stock status and behaviour is not removed by the implementation of rights-based management, and in some cases it becomes even more important. Other developments in fisheries science and management, such as the ecosystem approach to fisheries management (EAFM) requires even wider knowledge of the ecosystem than just the abundance and productivity of target stocks, or the comparative effort of each fishery. However, linking of the various ecological-state and fishing-pressure indicators used under the EAFM to tradable rights appears to be a new and relatively open field of enquiry.

5. References

- Anonymous (2005), Charting a new course. Defra, UK government, London. <http://www.defra.gov.uk/marine/fisheries/policy.htm#2>.
- Anonymous (2006) Quota management: Fixed quota allocations. Department for Environment, Food and Rural Affairs, London SW1P 3JR. <http://www.defra.gov.uk/marine/fisheries/quota/fqa.htm>.
- Anonymous (2008c) NASCO implementation plan for salmon management in UK (England and Wales) 2006/07 to 2010/11. IP(07)10 FINAL.
- Arnason, R, Hannesson, R. & Schrank, W.E. (2000). Costs of fisheries management: The Cases of Iceland, Norway and Newfoundland. *Marine Policy*, 24, 233-243.
- Arnason, R. 2007. Property Rights Quality and Economic Efficiency of Fisheries Management Regimes: Some Basic Results In T. Bjorndal, D. Gordon R. Arnason and R. Sumaila (eds.). *Advances in Fisheries Economics*. Blackwell.
- Beddington, J. R., Agnew, D. J., and Clark, C.W. (2007) Current problems in the management of marine fisheries. *Science* Vol. 316 pp 1713-1716.
- Brado, M. and Waldo, S. (2008) *Att vanda skutan – ett hållbart fiske inom räckhåll*. Report to the Expert Group for environmental studies 2008:1. Swedish Government, Department of Finance.
- Borges, L., Rogan, E., and Officer, R. (2005). Discarding by the demersal fishery in the waters around Ireland. *Fisheries Research* **76**, 1-13.
- Borges, L., van Keeken, O.A., van Helmond, A.T.M., Couperus, B. and Dickey-Collas, M. (2008). What do pelagic freezer-trawlers discard? *ICES Journal of marine Science*, **65**, 605-611.
- Chu, C. (2008) Thirty years later: the global growth of ITQs and their influence on stock status in marine fisheries. *Fish and Fisheries*, 2008, 10, 1-14.
- Costello, C., Gaines, S.D. & Lynham, J. (2008) Can Catch Shares Prevent Fisheries Collapse? *Science* Vol. 321. no. 5896, pp. 1678–1681.
- Cotter, A.J.R., Course, G.P., Ashworth, J., Forster, R., Enever, R., Goad, D., Bush, R., Shaw, S., Mainprize, R. & Garrod, C. (2006) Summary of commercial fishing by English and Welsh vessels > 10 metres LOA for 2004. Cefas Scientific Series Tech. Rep. 134, 93pp. www.cefas.co.uk/publications/techrep/tech134.pdf.
- Cox, A. 2003. Subsidies and deep-sea fisheries management: policy issues and challenges. OECD. <http://www.oecd.org/dataoecd/10/27/24320313.pdf>
- del Valle I., Hoefnagel E., Astorkiza K., Astorkiza I. 2006 Right-based fisheries management. In: Motos, L., Wilson, D.C. (Eds.) *The knowledge base for fisheries management*. Vol 36. edn, Elsevier.

- DG Fish (2006) Economic Performance of Selected European Fishing Fleets. Economic Assessment of European Fisheries. Annual Report 2005. DG Fisheries, European Commission.
- DG Fish (2007) Economic Performance of Selected EU Fishing Fleets. Summary document prepared by the Economic Unit of DG FISH. December 2007. DG Fisheries, European Commission.
- European Commission (2007) Communication on rights-based management tools in fisheries, 73 final.
- Fangourdes, K, Marugan-Pintos, B, and Pascual-Fernandez, J.J. (2008). From open access to co-governance and conservation: The case of women shellfish collectors in Galicia (Spain), *Marine Policy* 32, pp 223–232.
- Garza-Gil, M.D., Varela-Lafuente, M.M. & Iglesias-Malvido, C. (2003) *Spain's North Atlantic swordfish fishery*. *Marine Policy* 27: 31–37.
- Hatcher, A., Pascoe, S., Banks, R. and Arnason, R. (2002), Future options for UK fish quota management. Centre for the Economics and Management of Aquatic Resources, University of Portsmouth. CEMARE report no. 58, 122p. <http://statistics.defra.gov.uk/esg/reports/fishquota/cover.pdf>.
- Institute of Food and Resource Economics (2008a) Erfaringerne med Ny Regulering (The Experiences with the New Regulation). University of Copenhagen, May 2008.
- Institute of Food and Resource Economics (2008b) Economic situation of the Danish Fishery 2008. University of Copenhagen, April 2008.
- Kell, L.T., Pilling, G.M., Kirkwood, G.P., Pastoors, M., Mesnil, B., Korsbrekke, K., Abaunza, P., Aps, R., Biseau, A., Kunzlik, P., Needle, C.L., Roel, B.A., and Ulrich, C. 2005. An evaluation of multi-annual management strategies for ICES roundfish stocks. *ICES Journal of Marine Science* 63: 12-24.
- Kirkley, J, Morrison Paul, C, Cunningham, S and Catanzano, J. (2004) "Embodied and Disembodied Technical Change in Fisheries: An Analysis of the Sète Trawl Fishery, 1985-1999" *Environmental and Resource Economics* 29:191-217.
- Laursen Cozzari, B., Løkkegaard J. & Nielsen, M. (2007) The Danish Mussel Fishery *in Focus on the economy in the Nordic Fisheries. Case study reports from Iceland, Norway, the Faroe Islands, Sweden and Denmark*. Danish Institute of Food and Resource, Economics, Report No 186.
- Laxe, F. (2006) Transferability of fishing rights: the Spanish case. *Marine Policy* 30: 379–388.
- Mahou-Lago, X.M. (2007) Implementación y gobernanza: La política de marisqueo en Galicia. Universidad de Santiago de Compostela. Tesis doctoral.
- G Miguez et al. (2008) Institutions and management of fishing resources: The governance of the Galician model. *Ocean & Coastal Management* 51:625–631.

- Nautilus Consultants (2006) PO Quota Management Audit: Effectiveness of PO service provision in market/price support, quota management and quota trading. Prepared for the UK fishery departments. Report authors Crick Carleton, Tristan Southall and Rod Cappell. Nautilus Consultants Ltd, August 2006.
- Nielsen, M., Cozzari, B., Eriksen, G., Flaaten, O., Gudmundsson, E., Løkkegaard, J., Petersen, K., & Waldo, S. (2007) *Focus on the economy in the Nordic Fisheries. Case study reports from Iceland, Norway, the Faroe Islands, Sweden and Denmark*. Danish Institute of Food and Resource Economics, Report No. 186.
- OECD (2003) *The cost of managing fisheries*. Paris, Organisation for Economic Co-Operation and Development.
- OECD (2006) *Using Market Mechanisms to Manage Fisheries – Smoothing the Path*. Paris, Organisation for Economic Co-Operation and Development. 325pp.
- OECD (2008) *Draft recommendation of the Council on the design and implementation of decommissioning schemes in the fishing sector (Note by the Secretary-General)*. C(2008)78. 22 May 2008. Organisation for Economic Cooperation and Development. 79p.
- Salz, P. & Macfadyen, G. (2007) *Regional Dependency on Fisheries*. Final report of the study for the Committee on Fisheries of the European Parliament. Framian bv, Netherlands & Poseidon Ltd., UK. Project No. IP/B/PECH/ST/IC/2006-198.
- Scottish Government (2008) *Safeguarding Our Fishing Rights – The Future of Quota Management and Licensing in Scotland. A Consultation Paper*. Edinburgh: The Scottish Government.
- Schranck, W.E., Arnason, R. & R. Hannesson. (2003). *The Cost of Fisheries Management*. Adlershot , Burlington: Ashgate.
- Shotton, R. (ed.) *Case studies on the allocation of transferable quota rights in fisheries*, FAO Fisheries Technical Paper No. 411, 2001, FAO, Rome and *FAO Legislating for property rights in fisheries* FAO Legislative Study No. 83 2004 FAO, Rome.
- van Ginkel R. (1988) Limited entry: panacea or palliative? Oystermen, state intervention and resource management in a Dutch maritime community. *Journal of Shellfish Research*. Vol. 7. No. 2, 309-317.
- van Hoof L. (2008) *Government or Governance: co-management as alternative for enforcement?* EFAE Sardinia Conference, Institute for Marine Resources and Ecosystem Studies, PO Box 68, 1970 AB, IJmuiden, The Netherlands.
- Vermuë, A.J. (Dutch Director of Fisheries) (2007) *Dutch Annual Fleet Management Report for 2006 to achieve a sustainable balance between fishing capacity and fishing opportunities*, 4 p. + annex.
- Vetemaa, M., Eero, M. and Hannesson, R. (2002). The Estonian fisheries: from the Soviet system to ITQs and quota auctions. *Marine Policy* 26, pp 95-102.

Annex 1. Terms of Reference

Lot 4: An analysis of existing Rights Based Management (RBM) instruments in Member States and on setting up best practices in the EU

Brief description of the objectives of the study

The aims of the study are in three distinct phases. Firstly, it shall survey RBM systems in place in the different coastal Member States. Secondly, it shall examine a range of specific RBM characteristics and effects. Thirdly, it shall recommend best practices for different types of fisheries in the EU.

Background of the study

The Communication from the Commission to the Council and the European Parliament on improving the economic situation in the fishing industry²⁵ includes, among its longer-term measures and initiatives, the economic management of fisheries. In this respect, the Communication stated that "While economic management of fishing rights is an exclusive national responsibility, the methods of allocating, sharing or transferring fishing opportunities between vessels at national level also have a bearing on the economic situation of the fleet. A debate at Community level on these issues on the basis of a Commission Communication is planned later this year".

The debate was launched on 26 February 2007, with the adoption of the Communication of the Commission on rights-based management tools in fisheries²⁶. On that date a public consultation was also launched. In order to facilitate it, a dedicated website and e-mail address have been created²⁷ to receive comments from stakeholders and any other interested third parties.

After the public consultation, further actions (e.g. meetings, hearings) will be taken by the Commission during the remainder of 2007 to further animate the debate. The Commission will sum up the debate and assess the need for follow-up at Community and national levels in the first quarter of 2008.

The present study will directly feed into the debate. The results will also contribute to the Commission's assessment of the need for follow-up.

Terms of reference of the study

For the purposes of the study, RBM includes any system of allocating individual fishing rights to fishermen, fishing vessels, enterprises, cooperatives or fishing communities. RBM can be grouped within two categories²⁸, namely access rights and

²⁵ COM (2006) 103 final of 9 March 2006.

²⁶ COM (2007) 73 final of 26 February 2007.

²⁷ http://ec.europa.eu/fisheries/cfp/governance/consultations/consultation_260207_en.htm

²⁸ Different systemisations exist as well, in particular those grouping access rights and input rights together and examining output rights separately.

withdrawal (harvest) rights.

- Access rights are allocated in the form of access authorisations, either limited entry licences or territorial use rights in fishing (TURFs).
- Withdrawal or harvest rights can be divided in input rights and output or catch rights.
 - Input rights mean more specifically the right to use or exploit a stock: the right to a use of "capacity" (e.g. in terms of tonnage or engine power), the right to a fishing time or a time at sea in a certain area ("days at sea"), or the right to use certain types of gear, etc., whereby these aspects of input rights are often combined (e.g. X days at sea when using Y gear).
 - Output/Catch rights specify the authorised quantity of landings within a certain duration of time and are a part of Total Allowable Catches or "TAC" on Community level. TACs are allocated among countries, fisheries, communities or individual fishermen; a share of a TAC may be allocated to a collective/cooperative or to an individual.

Technical content and methodology of the study

The contractor will be asked to:

- (1) Review of Existing RBM Practices in the EU
 - a) To review existing RBM practices in coastal Member States, in the light of the four criteria defined in the staff working paper accompanying the Communication COM(2007)73 (exclusivity, security, validity and transferability)^{29,30}.
 - b) As part of the review, the contractor shall focus on whether and, if so, how, the following issues are dealt with either by public authorities and/or by specific initiatives by industry or communities:
 - the concentration of fishing rights,
 - the protection of small-scale coastal fisheries,
 - the access of newcomers to fishing rights,
 - the access of nationals of other Member States to fishing rights, and
 - potential effects on discards, in particular by highgrading.

In particular, the review should focus on how the actual design of RBM in terms of the four criteria mentioned in paragraph b) is intended meeting concerns regarding the above mentioned issues. Regarding the transferability criteria, the review should elaborate on the existence of formal or grey markets for fishing rights within and between Member States, including in the latter case an estimation of the part of the available rights directly or indirectly controlled by nationals and/or firms from other Member States, as a consequence of

²⁹ http://ec.europa.eu/fisheries/publications/factsheets/legal_texts/sec_2007_247_en.pdf

³⁰ The OECD study Using Market Mechanisms to Manage Fisheries (2006) constitutes a useful, additional methodological reference.

quota swaps and/or "quota hopping" practices.

- c) To identify the drivers for setting up RBM systems (e.g. industry-driven) in coastal Member States.

(2) Analysis of Characteristics and Effects of RBM

- a) To describe the relationship between the analysed RBM system and input or output constraints on Community level, in particular:
 - whether the system is part of Member States' implementation of input or output restrictions agreed on Community level,
 - whether the rules of the system analysed result in exploitation constraints being added to those established on Community level.

- b) To explain the initial allocation of the total volume of rights and its subsequent evolution. As part of this task, the contractor shall explain in detail:
 - The way in which rights were initially allocated, especially whether prior users of the resource in question have been excluded or could not be considered at the level of prior use,
 - The interrelation between input and output fishing rights, in particular how individual catch quotas correspond to days at sea-rights within the initial allocation of rights, and how subsequent exchanges/transfers of rights and re-allocation of rights is influenced by this relationship,
 - In the particular case of rights allocated through auctions, how the auction was organised, the attribution criteria used and the price of rights,
 - Examine mechanisms that reserve for future use, collect, reallocate, and/or permanently withdraw these rights from the market, e.g. for conservation concerns or in the interest of future entrants, and
 - Assess how vessel decommissioning schemes have dealt with the respective rights of vessels leaving the industry.

- c) To analyse the functioning of the management tools used to distribute, monitor exchanges, and redistribute the fishing rights, addressing, among others, the following questions:
 - What are the administrative instruments used to document the attribution of a right and exchanges?
 - Are these instruments and their use, centrally documented and supported by electronic means?
 - What is the validity period of the rights, what are the rules for cancellation and re-distribution after expiry of the initial period, especially when the total volume of rights will have to be reduced in the following period?
 - How does the system avoid that over time the rights consolidate into permanent entitlements?

- d) To elaborate on the existence, functioning and monitoring of markets for fishing rights within and between Member States, whether formal or grey. Is the existence of these markets in conflict with other fishing customs and distribution principles (concerning certain fleet segments, regional fleets, or the "relative stability" among Member States)?
 - e) To review the role of different institutions (central and local governments, communities), public and private associations and other actors in the management of RBM systems (e.g. right distribution, valuation, trading). This should include assessing whether and how the cost of management of these systems is shared between the different actors.
 - f) Finally, the review shall elaborate on the reasons why certain coastal Member States, if any, have not deployed RBM.
- (3) Identification of Best Practices at EU level
- a) Analyse the degree of success of RBM in Member States, by reference to fisheries and fleet segments, with regard to CFP objectives (sustainability exploitation of stocks, relationship between size of fleets and available resources, economic viability) and corresponding conservation measures (input or output restrictions).
 - b) On the basis of the results of the analysis performed under the previous heading, the contractor shall identify best practices for different types of fisheries, fleets and EU regions with regard to the objectives of the CFP.

Annex 2. Summary of institutional roles in RBM systems

RBM system	Countries where applied	Institutions involved	Role of institution	Cost sharing
ITQs ³¹	Spain (demersals in NEAFC and swordfish in ICCAT)	a) MARM (<i>Ministerio del Medio Ambiente y Medio Rural y Marino</i>)	i) Allocation of TAC on a given species to boats /POs. ii) Sanctions on quota over shooting.	Borne by government
		b) MARM and Autonomous Community (AC)	i) Allow (or not) geographical mobility of vessels.	
		c) POs	i) Allocates rights among members ii) Transfer of rights among POs. iii) Inform government on quota transfers and uptake. iv) Boats can trade rights directly when they do not use POs as a channel. v) boat-owners from a given PO can chose to trade their rights through other PO ³² vi) when boatowners decide to transfer rights without using the PO they have to inform the government directly v) Representative POs can impose rule to their associates that can be subsequently extended to non associates ³³ . This has been the case of the PO-4 of Galicia that, in December 2007, required government to impose restrictions for their associates on trip catch limits on megrim. These trip limits were established in 2,500 tones for fish (20-25 cm.) landed in the harbours of Vigo and Marin. In April 2008, the government ³⁴ extended these trip- restrictions to the whole Spanish Grand Sole's ³⁵ fleet landing in the aforementioned harbours.	Borne by the PO
	Spain (BFT in ICCAT)	a) MARM	i) Allocates rights among sectors (i.e. pole and line in the Cantabrian Sea) ii) Implements a fund of manoeuvre if quotas are getting from other MS through exchanges. This fund aim at compensating quota overshooting.	Borne by government

³¹ In Spain and Portugal, POs are an optional platform to trade rights). In UK, rights trade is a privilege of the POs.

³² 10 boats from OP-Lugo of Galicia manage their rights through Anasol of Galicia, which is the biggest boat-owner association of the Spanish fleets in NEAFC.

³³ Council Regulation 104/2000 and Commission Regulation 1886/2000

³⁴ *ORDEN APA/985/2008*

³⁵ Grand Sole comprises ICES areas Vb, VI, VII and VIII abde

Rights Based Management in EU coastal Member States

		b) cofradias	i) Unclear whether they will allocate rights among members in each fleet. The new regulation ³⁶ does not specify the role of cofradias in the allocation of individual quotas of BFT to their members. ii) Boat-owners are able to trade their rights but only within their fleet. It is not clear whether cofradias will intervene in quota trade. It is not specified in law.	Borne by the cofradia
	UK	a) DEFRA	i) Allocates rights among POs	Borne by government
		b) POs	i) Allocates rights among members. ii) Transfer of rights among POs and even to foreign vessels flagged in UK through “dummy licenses”. iii) Quota transfers have to be reported to the government. iv) Control of quota uptake and enforcement. v) Boatowners only trade rights using their respective POs as channels.	Borne by the PO
	Portugal (NAFO, ICCAT)	a) Ministerio de agricultura e des pescas	i) Allocation of TAC on a given species to boats /POs ii) Regulations offer the possibility of transferring not fully covered rights to non-Portuguese fleets.	Borne by the government
		b) POs	i) Allocates rights among members ii) Transfer of rights among members. iii) Boatowners can trade right rights without using POs as a channel for trade.	Borne by the PO
	Netherlands	a) Fish Directorate of Min. of Agriculture, Nature and Food quality	i) Allocation of national quotas among fishing vessels. (ITQ)	Borne by Government
		b) Biesheuvel groups ³⁷ /PO's	i) Management (trade/lease) of quotas and days-at-sea among members Monitoring of quota up-take	Borne by group
	Denmark	a)Min. of Food, Agriculture and Fishery, Directorate of Fisheries	i) Allocation of quotas to individual vessels (ITQ and VTQ) ii) Registration of quota transfers (ITQ) iii) Approval of quota transfers (VTQ)	Borne by Government
		b)Pool groups ³⁸	i) i) Management (merger/lease/swap) of quotas among members Monitoring of quota up-take	Borne by the groups
	Estonia	a) Ministry of Environment	i) Allocation of national quotas among fishing vessels; supervision (control and monitoring) of quota market	Fishing permits fee
TURFs	Spain (coastal resources)	a) MARM	i) Recognition of territorial rights	Government
		b) cofradias	i) defence of territorial rights (i.e. banning of certain technologies such as pelagic trawling in the Bay of Biscay) ii) daily allocations (i.e. shellfish in Galicia) iii) Give room to associations within the cofradia such as association of women shellfish gatherers in Galicia.	Cofradias Regulations also see that AC aid to cofradias could be devised if required

³⁶ ORDEN ARM/1244/2008,

³⁷ Groups of fishers/vessels (mainly beam trawlers). There are 8 such groups

³⁸ There are 11 pool groups in Denmark in 2008 comprising 670 VTQ fishing vessels

Rights Based Management in EU coastal Member States

	Malta (dolphin fish)	a) Ministry of Rural Affairs and Environment	i) Allocation of annual rights through lottery. ii) Not allocated rights may be allocated to other EU-nationals outside 12 nm off the coast.	Government
	Italy (clams)	a) General Directorate of Fisheries and Aquaculture	i) Allocation of territorial rights to consortia (consortia need to count on 80% of dredge owners to be considered as such). ii) creation of inter-consortia committee.	Government
		b) Consortia	i) Management and enforcement of rights. ii) Maximum daily catches and other technical measures. iii) Rights are not transferable but trade of dredges and attached rights is up to owners.	Consortia
	Greece ³⁹			
	Sweden	a) <i>public waters</i> : Swedish Board of Fisheries (SBF) and local co-management groups	i) SBF has initiated co-man experiments where local co-management organisations make and implement management plans.	SBF and the parties involved
		b) <i>private waters</i> : property owners	i) Management of habitats and access rights (private licence issuing)	
	Finland	a) Public authorities: the State and 11 Fishery Districts	i) Policy formulation and implementation ii) License issuing iii) Formulation and implementation of district fisheries management plans	Government Payment of licence fee
		b) Private sector: Fisheries Regions and Fisheries Associations	i) fisheries management at local level ii) technical regulations iii) private license issuing	Fisheries Associations collect license fees for fish stock maintenance etc.
IQs ⁴⁰	Italy (bluefin tuna)	a) Minister	i) Allocation of TAC to boat-owners/PO and unclassified quota for possible allocation (UQPA)	Government
		b) POs	i) Allocation to members. No trade of rights. No transfer among POs. ii) Control of quota uptake	PO
	Ireland	a) Department of Communications, Marine and Natural Resources	i) Establishment of monthly quota allocations ii) allocation of vessel quotas iii) allowance to other MS to buy in capacity ⁴¹	Government
	Belgium	a) Flemish Government	i) Allocation of catch quotas and days at sea to POs	Government
		b) PO's	i) Allocation of catch quotas and days-at-sea to members.	PO
	Sweden	a) Swedish Board of Fisheries, SBF	i) Allocation of IQs and days-at-sea to individual vessels	SBF
	Germany	a) the BMELV (Federal Ministry of Food, Agriculture and Consumer Protection)	i) quota allocation to individual vessels/ POs and overall management	Government

³⁹ under consideration to protect small-scale operators

⁴⁰ vessel catch limits in the case of Ireland

⁴¹ Transference of rights is not allowed. Both national and foreign fishers must buy capacity in order to access the fishing opportunities.

Rights Based Management in EU coastal Member States

		b) Regions (Länder) 14)	i) consultative role in quota allocation ii) operational management functions	
		c) POs	i) consultative role in quota allocation ii) operational management functions where quotas (fishing permits) are allocated to POs.	
	19. Latvia	19. Ministry of Agriculture (National Board of Fisheries)	19. Allocation of quota supervision of quota transfers and divisions	Lease fee
	20. Lithuania	20. Ministry of Agriculture (Fisheries Department)	20. Allocation of quota; administration of reallocation market ³	License fee (low cost)
	21. Poland	21. Ministry of Agriculture (Fisheries Department)	21. Allocation of quota; supervision of quota transfers ⁴ record of quota take-up	License fee
Tradable effort quotas	Netherlands	10) Same as ITQs	10) Same as ITQs	
	Denmark	14a) Directorate of Fisheries	14a) Allocation of days-at-sea, monitoring.	Government
		14b) Local Fishermen's Associations	14b) Facilitation of transfers (informal role)	Fishermen's Association.
	Estonia	a) Ministry of Environment	i) Allocation of quota ii) Administration of quota market ⁴²	Government
Non-tradable effort quota	Latvia	19. Ministry of Agriculture (National Board of Fisheries) and companies with rights	19. Companies own fishing rights; administration have total control of quota exchanges or transfers ¹	Lease fee
Community rights	France	a) Government	i) Allocation of TAC to boat-owners/PO ii) creation of quota reserve iii) rules on transferability of vessels and track-records	Government
		b) POs	i) set up of sub-quotas ii) control of PO quota overshooting iii) able to allocate individual quotas or métier if needed iv) Privilege on trade of rights with other POs. Boats cannot trade rights on their own.	PO
	Portugal (sardine)	<i>Direcção-Geral das Pescas e Aquicultura (DGPA)</i>	i) allocate quotas to PO and non-PO purse seiners	Government
		POs	i) Manage global quota and transfer it to other POs ii) Establish daily limits to associates that can also apply for non-PO vessels ⁴³	PO
	Belgium	a) The Flemish Government	i) allocation of catch quotas and days-at-sea	
		b) POs	i) management of catch quotas and days-at-sea	

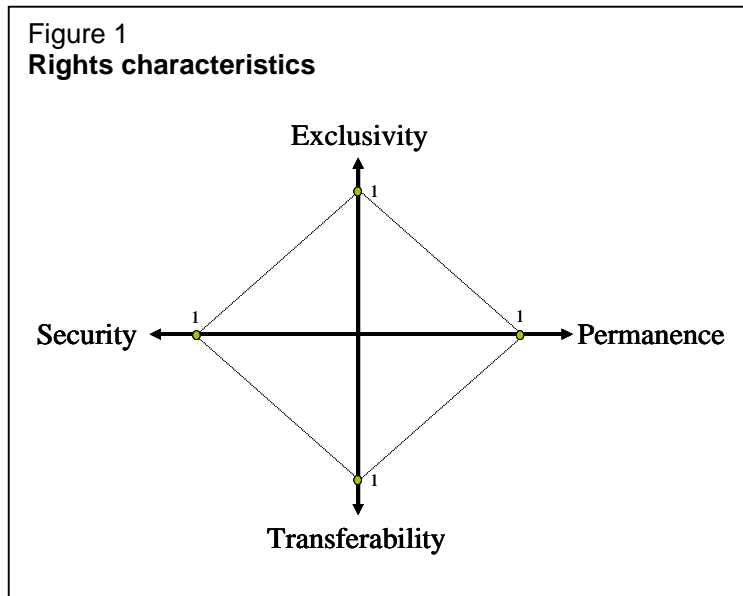
^{42 5} Fishing rights are fully transferable and fully divisible under official market with some governmental control. The government receives information about the transfer and gives approval to the transfer agreement, if the basic conditions are fulfilled. The government does not make rules on which an Estonian company can transfer its rights or what the ratio of the transfer should be.

⁴³ Portaria n.º 543-B/2001

Annex 3. Measuring the quality of rights.

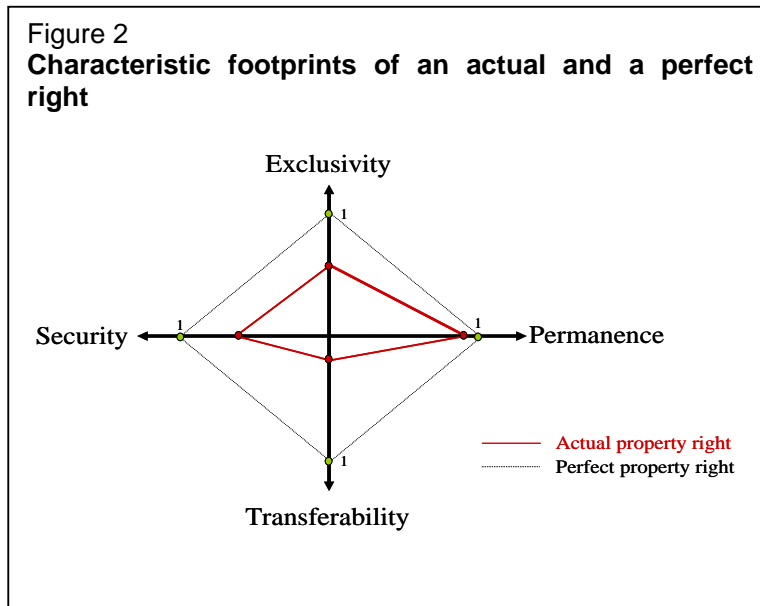
(the following is an extract from a paper under preparation by Ragnar Arnason, Professor, Department of Economics, University of Iceland)

As suggested by Scott (1989), it is helpful to visualise the characteristics of rights as measured along the axes in four-dimensional space (see Catalogues for an explanation of the four attributes). This is illustrated in Figure 1. Obviously, if more than four characteristics are needed to describe a property right, the number of axes in the diagram would be correspondingly increased.



A given right may feature the different rights characteristics to a greater or lesser degree. It is convenient and totally unrestrictive to measure the degree to which a given characteristic is featured on a scale of 0 to 1. A measure of zero means that the right in question features none of the characteristic. A measure of unity means that the right features the characteristic fully. Given this we can draw a picture of perfect rights, i.e., a right which features all the 'property rights' characteristics fully, as a rectangle in the space of the four rights characteristics. This is illustrated in Figure 1.

We refer to the map of the rights characteristics as in Figure 2, as the *characteristic footprint* of a right. Obviously, the characteristic footprint of a perfect right represents the outer bound for that of any right. It follows that the characteristic footprint of any actual right must be completely contained within that of the perfect right as illustrated in Figure 3.



The fact that any real right must be contained within the characteristic footprint of a perfect right (see Catalogue for explanation) suggests the ratio of the area enclosed by the footprint of a real right to that of the perfect one as a simple measure of the quality of any real right. This measure has the convenient property of always being between zero and one. In addition, it satisfies the requirement that the closer the characteristic footprint of a real right is to that of a perfect right, the higher is the measure. Furthermore, it is easy to calculate and generalizes in a straight-forward manner to any number of rights characteristics. Thus this measure has many useful properties. However, it also has the significant limitation of treating all rights characteristics equally.

To remedy this, the so-called Q-measure of rights quality has been developed (Arnason 2000). A general formula for the Q-measure is:

$$(1) \quad Q \equiv \left(\prod_{i=1}^N x_i^{a_i} \right) \cdot \left(w_1 + \sum_{j=N+1}^M w_{2,j} \cdot x_j^{a_j} \right).$$

This Q-measure applies to M rights characteristics. The first N , x_i , $i = 1, 2, \dots, N$, are essential, i.e. characteristics that render the Q-measure zero and, consequently, the right worthless if they are zero. Hence the multiplication represented by the symbol

$\prod_{i=1}^N$. The remaining $M-N$ characteristics denoted by x_j , $j = N+1, N+2, \dots, M$, are non-

essential. Even if they are all zero, the Q-measure would not necessarily be zero. The exponents, a_i , $i = 1, 2, \dots, M$ are all positive. They essentially define the importance of the respective characteristic to the right. The first N of them (those for the essential characteristics) measure the percentage change in Q when the respective characteristic increases by 1%. The weights, w_1 and $w_{2,j}$, are also positive and sum to unity. They essentially define the relative importance of the non-essential characteristics relative to those which are essential.

It is easy to check that since all characteristics are measured between 0 and 1, the Q-measure takes values in the interval [0,1]. A Q-value of zero means that the right has no quality; it is worthless. A value of unity means that the right is perfect.

In the simple case of the above four rights characteristics, the Q-measure is defined by the expression

$$(2) \quad Q \equiv S^{\alpha} \cdot E^{\beta} \cdot P^{\gamma} \cdot (w_1 + w_2 \cdot T^{\delta}), \quad \alpha, \beta, \gamma, \delta, w_1, w_2 > 0 \text{ and } w_1 + w_2 = 1$$

where *S* denotes security, *E* exclusivity, *P* permanence and *T* transferability. Note that in this version of the formula the first three rights characteristics are considered essential and the fourth, transferability, non-essential.

Obviously, to apply the Q-measure defined by (1) and (2) the values for the relevant rights characteristics have to be determined as well as the values of the exponents and the weights. This is the empirical work which is needed to apply the Q-measure (see the EU RBM Catalogue in Part II).

Annex 4. Q-value plots by RBM system

The table below provides a summary of the RBM systems implemented in the EU. The table includes the following information:

- the fisheries they manage;
- the target species;
- a measure of the quality of fishing rights (Q-value) they infer;
- an assessment of the stock status of each particular RBM system;
- an assessment of the economic performance of the fleets managed under each RBM system; and
- an indication of which RBM systems have been deemed to be examples of good practice and discussed in detail in Section 4 of Part I.

No	RBM system	Fishery	Target Species	Q-value	Stock Sustainability Assessment	Economic Assessment	Best Practice Case Study?
1	LL (shellfish) Spain	Shellfishing Galicia	Clams, other bivalves, goose barnacle	0.43	3	4	
2	LL Malta	Polyvalent	Sardine, prawns, demersal fish, bluefin tuna	0.35	2	n/a	
3	LL Italy 1	All Italian fisheries in the Adriatic, Tyrrhenian and Mediterranean	Anchovy, sardine, hake, pilchard, red mullet	0.46	3	4	
4	LL Italy 2	All Italian fisheries in the Adriatic, Tyrrhenian and Mediterranean	Albacore, swordfish	0.46	3	4	
5	LL Italy 3	All Italian fisheries in the Adriatic, Tyrrhenian and Mediterranean	Cephalopods, octopus, shrimp, nephrops, clam	0.46	3	4	
6	LL Slovenia	Coastal and offshore fisheries	Anchovy, sardine, cephalopods, mullet, seabass, pandora, steenbass	0.30	2	n/a	
7	LL France	All fisheries	Mixed	0.22	2	n/a	✓
8	LL Belgium	Flatfish fishery	Plaice and sole	0.22	2	2	
9	LL Cyprus 1	Small scale fishery	Bogue, mullet, octopus, cuttlefish, red mullet, seabreams, dentex, grouper, picarel	0.24	2	n/a	
10	LL Cyprus 2	Polyvalent or longliners	Tuna, swordfish, mullet, bogue, seabream, dentex	0.24	2	n/a	
11	LL Cyprus 3	Bottom trawler	picarel, mullet, pagellus, octopus, cuttlefish, squid, bogue	0.24	2	n/a	
12	LL Cyprus 4	Purse Seiner	Bogue, Picarel, sardinella	0.24	2	n/a	
13	LL Cyprus 5	Tuna purse seiner	Bluefin tuna	0.24	2	n/a	
14	LL Denmark	Mussel dredging in Limfjord, Kattegat and Wadden Sea	Blue mussel, Oyster	0.33	2	n/a	✓
15	LL Sweden	Pair trawl	Vendace for bleak-roe production mainly	0.22	3	4	
16	LL Finland	Coastal salmon fishery	Pike, perch, pikeperch, trout, salmon, herring, sprat	0.24	3	2	

Rights Based Management in EU coastal Member States

No	RBM system	Fishery	Target Species	Q-value	Stock Sustainability Assessment	Economic Assessment	Best Practice Case Study?
17	LL Greece 1	trawl fishery	hake, red mullet, cephalopods, shrimps	0.22	2	4	
18	LL Greece 2	Purse seine fishery	sardine, anchovy, bogue, Mediterranean horse mackerel and Scorbidae	0.22	2	4	
19	LL Greece 3	Multi gear fishery (vessels over 12m length)	targeting Merlucius merlucius, Dicentrarchus labrax, sparus aurata, Dentex dentex, Sepia officinalis	0.22	2	n/a	
20	LL Greece 4	Small scale fishery	Multiple species (over 100 identified)	0.22	2	n/a	
21	ITQ NEAFC Spain	Demersals in NEAFC	Hake, nephrops, lings, whiting, anglerfish, flat fish, pollock	0.65	1	n/a	✓
22	ITQ Spain	Swordfish in ICCAT	Swordfish, shark	0.65	3	n/a	
23	ITQ BFT Spain	Bluefin tuna in Mediterranean, Gibraltar and Mediterranean	Bluefin tuna	0.65	2	n/a	
24	ITQ NAFO Portugal	Demersals	Cod, shrimp, mackerel, blue whiting, herring, red fish, tusk, Greenland halibut, ray, sarda	0.69	3	3	
25	IT Portugal	Swordfish in ICCAT	Swordfish, shark	0.65	3	2	
26	ITQ Netherlands 1		Cod, whiting	0.65	1	n/a	
27	ITQ Netherlands 2		Flatfish (plaice, sole)	0.65	3	n/a	✓
28	ITQ Netherlands 3		Herring, mackerel	0.65	3	n/a	
29	ITQ Denmark		Herring, mackerel	0.75	3	1	✓
30	VTQ Denmark		Demersals	0.52	3	2	
31	ITQ Estonia	Offshore	Herring, sprat and cod	0.71	2	1	✓
32	IQ BFT Italy	Italian bluefin tuna in Mediterranean	Bluefin tuna	0.53	3	n/a	
33	IQ / ITQ UK 1	Under 10m LOA	Cod, haddock, whiting, flatfish, rays, shellfish, Nephrops	0.45	2	4	✓
34	IQ / ITQ UK 2	Over 10m LOA demersal	Roundfish, flatfish, Nephrops, scallops	0.45	1	2	
35	IQ / ITQ UK 3	Pelagic	Mackerel, herring, horse mackerel, blue whiting	0.45	1	1	
36	IQ / ITQ UK 4	Deep water	Black scabbardfish, greater silver smelt, roundnose grenadier, blue ling, forkbeard, shark, others	0.45	3	n/a	
37	IQ VC Ireland 1	Polyvalent	Monkfish, megrim, haddock, whiting, cod, Nephrops,	0.28	2	n/a	
38	IQ VC Ireland 2	Specific sector	Mussels, scallops, razor clams, lobsters, crabs	0.28	3	n/a	
39	IQ VC Ireland 3	Beam trawlers	Sole, plaice, megrim and monkfish	0.28	3	n/a	
40	IQ VC Ireland 4	Pelagic	Mackerel, herring, horse mackerel, blue	0.28	2	n/a	

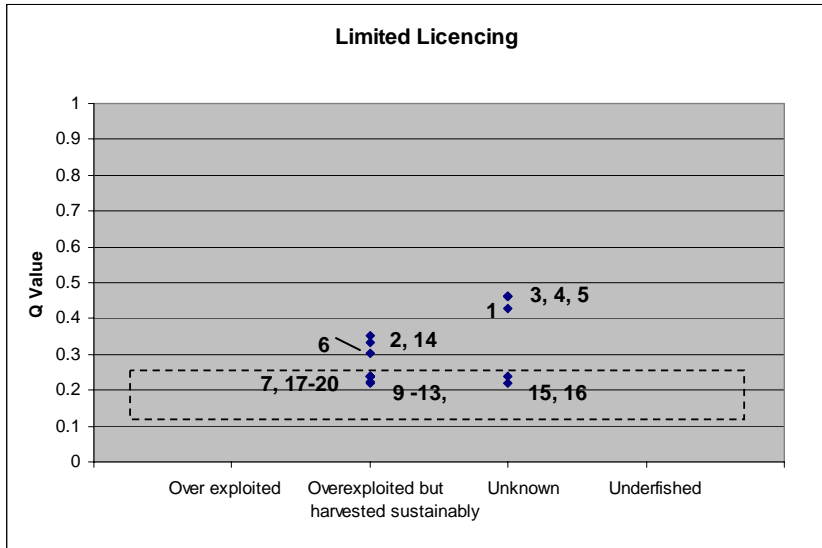
Rights Based Management in EU coastal Member States

No	RBM system	Fishery	Target Species	Q-value	Stock Sustainability Assessment	Economic Assessment	Best Practice Case Study?
			whiting				
41	IQ VC Ireland 5	Deep water	Orange roughy, argentine, redfish, scabbardfish, blue ling, grenadier, tusk, forkbeard	0.28	1	n/a	
42	IQ Sweden		Herring	0.24	3	4	
43	IQ Germany 1	Polyvalent	Herring, flatfishes, eel, freshwater species (pike, pike-perch, perch)	0.48	3	1	
44	IQ Germany 2	Trawl	Brown shrimps, sole and plaice	0.48	3	3	
45	IQ Germany 3	Demersal trawl	Cod, flounder, plaice, sole	0.48	1	3	
46	IQ Latvia	offshore	Herring, cod	0.46	2	1	
47	IQ Lithuania 1	Coastal Fishery	Smelt, cod, pike-perch, turbot, herring, bream, sprat, flounder	0.43	3	4	
48	IQ Lithuania 2	Offshore herring and sprat fishery	Herring, sprat	0.43	4	4	
49	IQ Lithuania 3	Offshore cod fishery	Cod, flounder	0.43	1	4	
50	IQ Poland 1	coastal fishery	Cod, salmon, sprat, herring, turbot, carp bream, pike-perch, flounder	0.43	3	2	✓
51	IQ Poland 2	salmon fishery	Salmon (<i>Salmo salar</i>)	0.43	3	2	
52	IQ Poland 3	cod fishery	Cod (<i>Gadus morhua</i>)	0.43	1	2	
53	TURFs Spain	Coastal fisheries	Shellfish, coastal fish	0.60	2	n/a	
54	TURFs Malta 1	Trawlers		0.27	3	n/a	
55	TURFs Malta 2	Drifting surface longline		0.27	3	n/a	
56	TURFs Malta 3	Kannizzati Fishing	Dolphinfish	0.27	3	n/a	
57	TURFs Italy	Clam harvesting in Italy	Clams	0.67	3	n/a	✓
58	TURF UK		Oysters	0.82	3	n/a	
59	TURF Sweden	Fishing in privately owned waters	Salmon	0.91	4	4	
60	TURF Sweden	Fishing in public waters		0.02	4	n/a	
61	TURFs Finland	Coastal - freshwater fishery	Pike, perch, pikeperch, vendace, whitefish, Baltic salmon, Baltic herring, trout	0.00	3	2	
62	CQ Portugal	Sardine	Sardine	0.73	3	4	✓
63	CQ & IQ France	Flatfish fishery	Plaice and sole	0.46	2	n/a	
64	CQ & IQ Belgium	Flatfish fishery	Plaice and sole	0.28	2	n/a	✓
65	CQ Poland	sprat and herring	Sprat and herring	0.30	3	2	
66	ITE UK	salmon netting	Salmon	0.59	1	n/a	
67	ITE Estonia	coastal	Plaice, perch, pike-perch, salmon, eel, herring	0.71	2	1	
68	IE Latvia	Coastal	Sprat, herring, perch, pike	0.46	3	3	

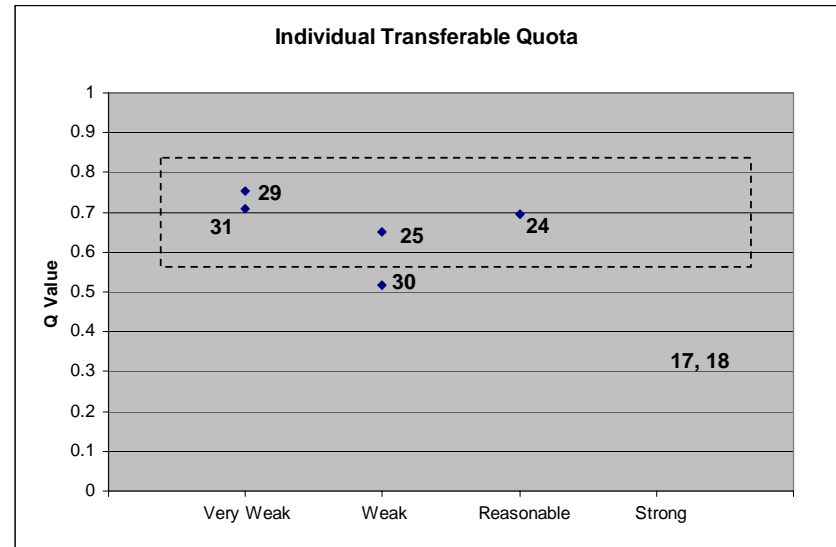
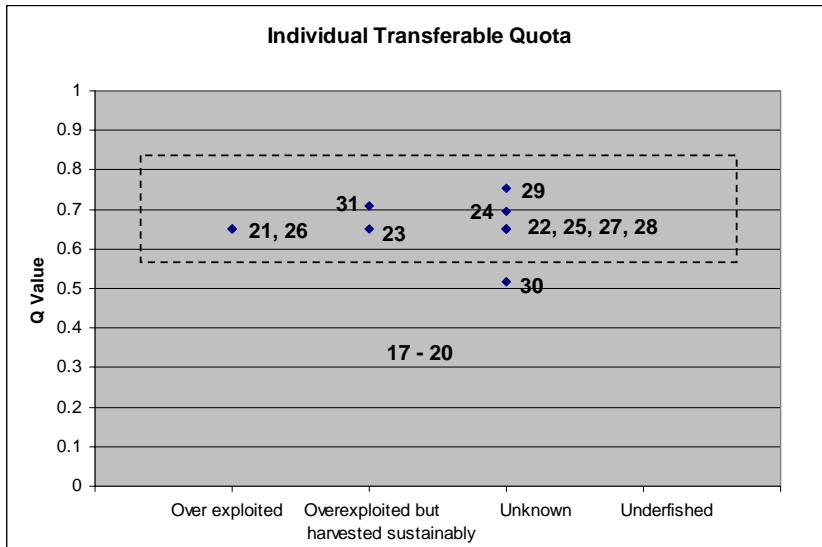
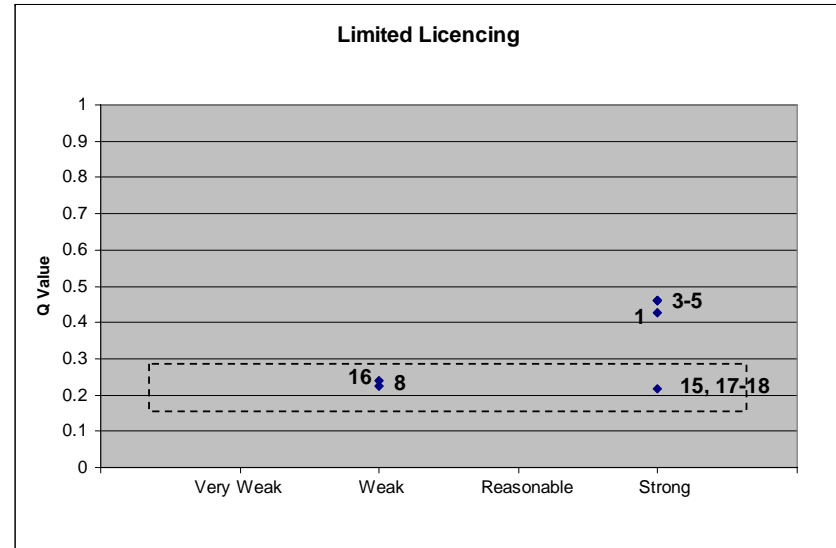
n/a – assessment unavailable due to data limitations

Each RBM system has been analysed in terms of the quality of fishing right (Q-value) compared to the two indicators – stock status and economic performance. This analysis is presented in the charts below. The number attributed to each RBM system can be used to identify each system on the charts.

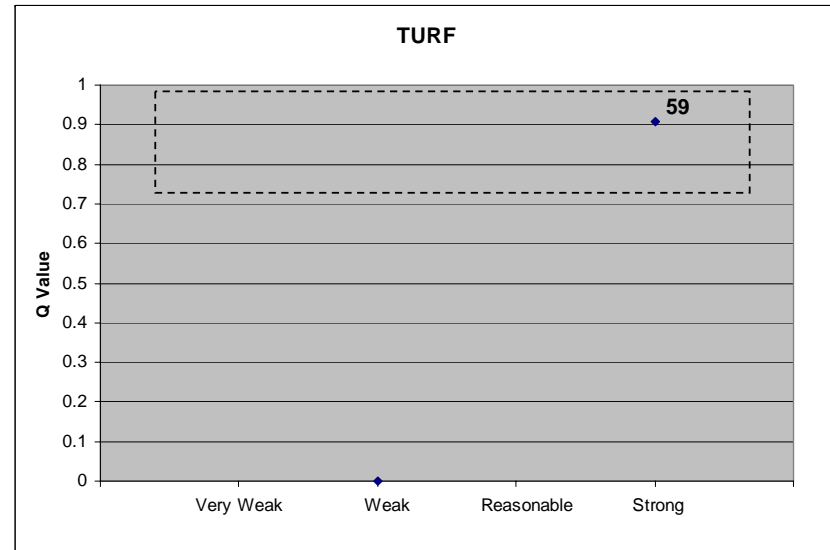
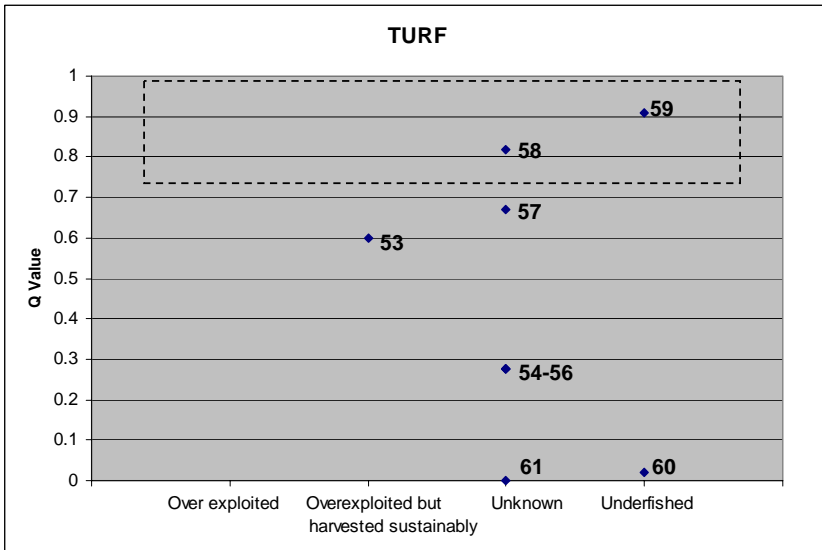
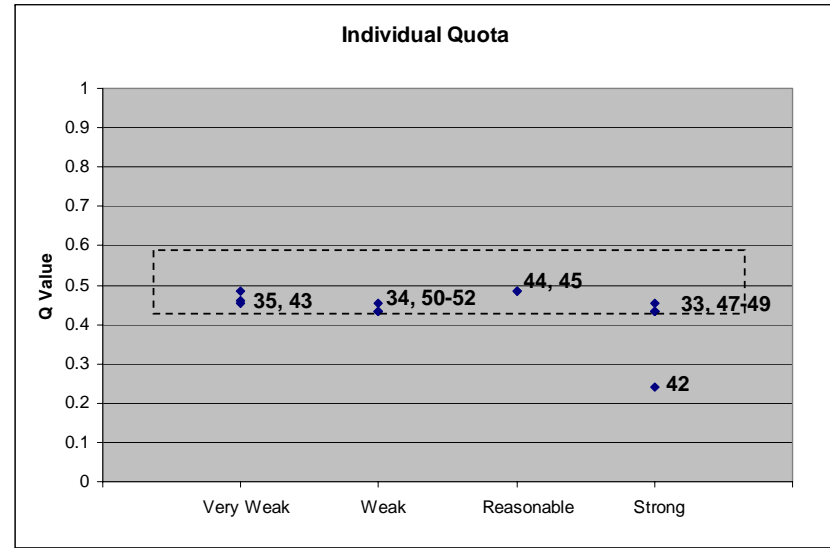
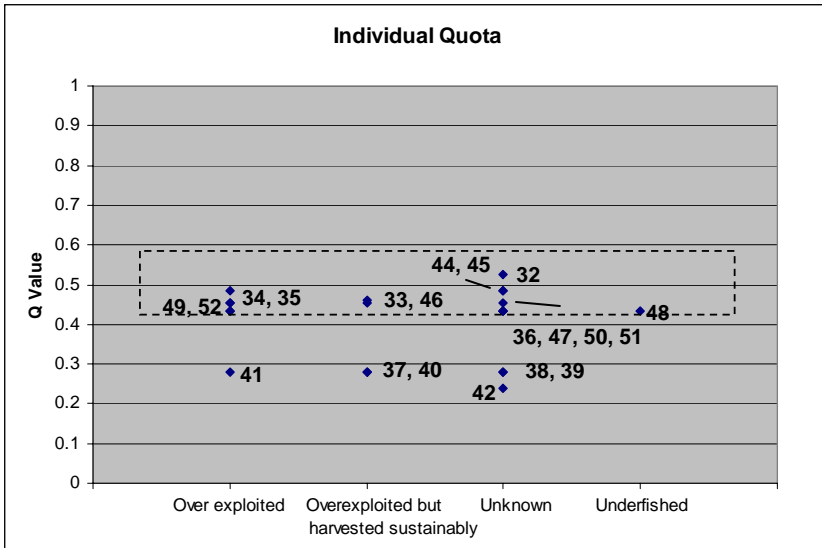
Stock Status



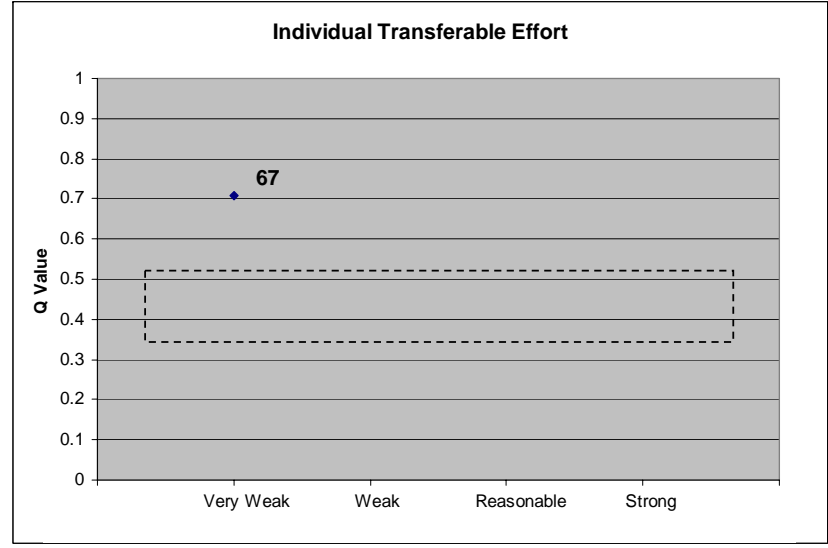
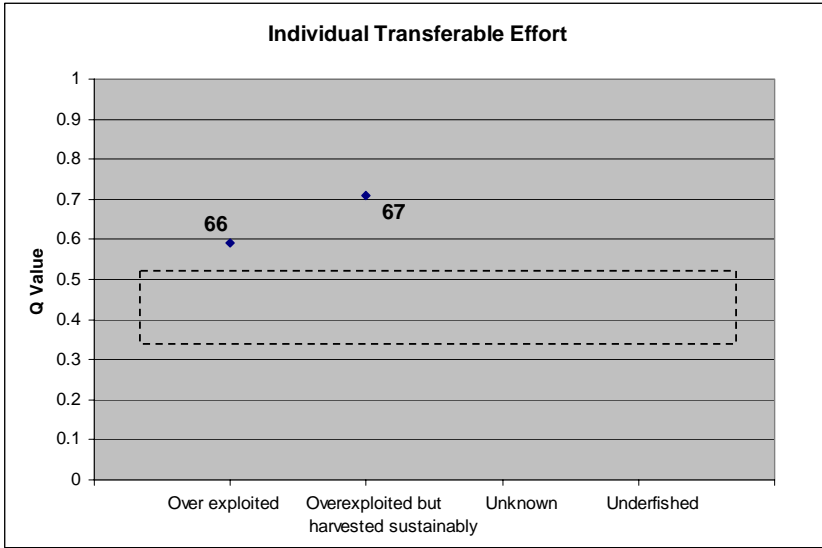
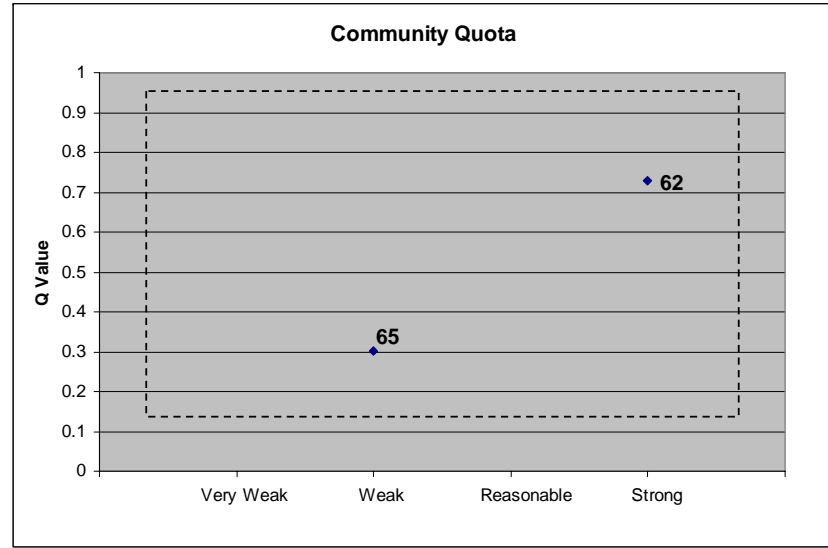
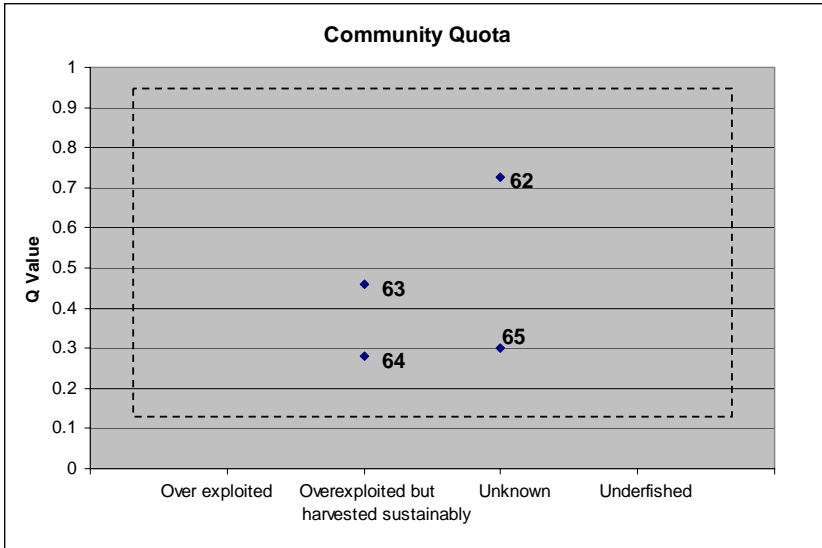
Economic Performance



Rights Based Management in EU coastal Member States



Rights Based Management in EU coastal Member States



Rights Based Management in EU coastal Member States

