



### Policy Briefs

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

### World Bank Study

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

### EC ACP Fish II Feasibility Study

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

## 9. Resource rent as a central concept in fisheries management: The case of Namibia

### Overview

Resource rent<sup>(1)</sup> is a key concept in the management of fisheries as it refers to a source of considerable wealth, potentially or actually available to society. Resource rent generated in fisheries can be a critical contributor to sustaining effective fisheries management, and can contribute to government revenue and to the wealth and wellbeing of society. If its potential is not well understood and there are no limits on fishing effort, this wealth will not be realised. Potential resource rents of great value can easily be squandered on excess capacity, leading to depletion of fisheries resources. Namibia, which became independent in 1990<sup>(2)</sup>, is a good example of successful fisheries management leading to the generation and capturing of resource rent of significant value.

### Case study<sup>(3)</sup>

#### BACKGROUND

Soon after independence, the new Namibian Government declared an EEZ, established a coherent fisheries policy, and enacted comprehensive fisheries legislation.

The total catch of all species has varied since independence at between about 500,000 to 800,000 tonnes per annum; in 2000 the total catch was 623,786 tonnes. The contribution of the fisheries sector to GDP rose from about 4% at independence to 10.1% in 1998. About 95% of Namibia's total fish production is exported and the value of these exports in 1999 was about N\$2.3 billion (US\$333 million<sup>(4)</sup>). Fish and fish products contributed about 30% to total export earnings, with the demersal species bringing in about 84% of total earnings. Around 14,220 people are employed in the fisheries sector in Namibia, approximately half of whom are employed in onshore processing.

The hyper-arid Namib Desert has meant that very few of Namibia's people historically lived on the coast and exploited its rich fisheries resources. As a result there is no large artisanal fleet, common in many parts of the developing world and there are only about 300 licensed fishing vessels in the whole of the Namibian fisheries sector. The combination of desert and the topography of the coastline have meant that Namibia has only two harbours, those of Walvis Bay and Lüderitz, and no other significant landing sites, thus limiting the places where fish can be landed and increasing the ease with which the fishery can be controlled.

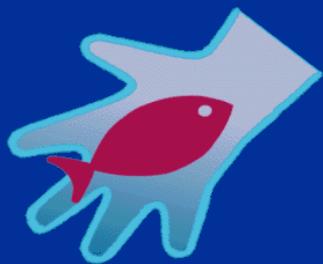
#### LIMITING CATCH

In mature fisheries some method of limiting the catch to what the stock can sustain, ultimately at a level of biomass approximating an optimum, needs to be implemented. Limiting catch means that some fishers are granted rights<sup>(5)</sup> to harvest fish while others are excluded from the fishery. In the case of Namibia, output limits are used for the most important fisheries.

Total allowable catches (TACs), divisible into individual quotas, are set annually for eight species: hake, horse mackerel, orange roughy, alfoncino, pilchard, red crab, rock lobster and monk (since 2001). Quotas may only be allocated to the holder of a "right of exploitation". Rights of exploitation are granted for periods of 20, 15, 10 or 7 years, depending on the extent to which the rights holder

## DFID Fiscal Reform in Fisheries Workshop

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



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meets certain criteria. Quota fees are charged on all quotas and structured to encourage Namibian registration and ownership of fishing vessels.

Officially rights are not transferable. However, with the services of competent lawyers and accountants, ways are found of effectively transferring rights outright or leasing them on an annual basis<sup>(6)</sup>.

Licenses are required for all vessels fishing in Namibian waters and are used to limit fishing effort in more minor fisheries that are not subject to a TAC and quota allocation (e.g. the tuna fishery).

### GENERATION OF RENT

*Reducing fishing effort* is the key to generating rents in a fishery that has been overfished and employs excessive fishing capacity. To achieve this objective in the long term, the incentive structure needs to move away from the perverse incentive to harvest fish before others do so, and towards the use of just sufficient fishing effort to achieve optimal harvesting in the long term.

Effort was considerably reduced in the Namibian fisheries after independence, particularly in the hake fishery. In the preamble to a question put to the European Commission at the time of Namibia's independence, a Spanish MEP revealed that "more than 173 of the Community's freezer fishing fleet" were operating in Namibian water<sup>(7)</sup>. These vessels were targeting hake, Namibia's most valuable stock.

Following the declaration of an EEZ and the introduction of *rights*, there was a successful clampdown on fishing by unlicensed vessels and fishing effort was dramatically reduced. By 1999 there were 19 freezer trawlers, 15 longliners and 53 wetfish trawlers targeting hake, a total 87 vessels<sup>(8)</sup> mostly of smaller harvesting capacity than freezer trawlers. While it might be the case that there still exists excess capacity in the fishery<sup>(9)</sup>, the reduction of effort has been substantial and has resulted in an industry that is better able to cope with the ecosystem perturbations that result in variable catch limits being set from year to year.

Two factors have contributed to the reduction in fishing effort: 1) clearly defined, enforceable rights, and 2) effective monitoring, control and surveillance.

**1) Clearly defined, enforceable rights** contribute to changing the incentive structure in fisheries so that there ceases to be any point in investing in capacity beyond what is needed to catch the quota efficiently. The incentive for each enterprise becomes to use the quota to produce the highest value product possible at the lowest cost possible.

In Namibia rights are clearly defined in terms of specific quotas granted annually. Although the quotas are not specified as percentages, for the most part in practice they amount to a percentage of the total allowable catch. Long-term rights enable fishing enterprises to plan ahead and encourage more of a sense of stewardship in the long-term health of the fishery resource.

**2) Effective monitoring control and surveillance** is essential if rights holders are to have confidence that their rights will be enforced. Compliance with limitations on fishing activities depends on fishers recognising that limitations are necessary, and that they are workable, and thus being reassured that everyone in the fisheries will comply with the limitations imposed. Regulation with the consent of the regulated leads to greater compliance and lower costs of enforcement.

While it might be argued that the Namibian fisheries are relatively easy to manage because of the limited number of fishing vessels and fishing harbours involved in the Namibian fisheries, the post-independence Namibian Government, at an early stage, demonstrated its determination to ensure enforcement of fisheries laws and regulations. When a significant part of the Spanish fleet, then still

in Namibian waters, defied the order to cease illegal fishing, the Government succeeded in taking tough enforcement action, despite being perceived as having very little capacity to do so<sup>(10)</sup>.

This action is important to note as it provided an immediate signal that the Government was serious about enforcement, i.e. it displayed a capacity for “strong government”. It did so aware that key European Commission officials strongly opposed such action, but was aware that the rebuilding of the fish stocks was important for Namibia's economic future. It also demonstrated that fishing companies, under certain circumstances were ready to seek, and even finance, enforcement action by Government.

The main focus of enforcement is now on the activities of licensed vessels. Most vessels, and all large vessels, carry onboard observers. Fisheries observers have defined career paths linked to training. They fulfil the dual role of observing and collecting catch data for scientific analysis. Fishing rights holders must pay an Observer Fund levy which is used to fund the Fisheries Observer Agency, a parastatal established to run the fisheries observer function.

## CAPTURING RENT

In a rights based management system, it is important to establish the principle that, because a right to benefit from the productivity of a publicly owned resource has real value, payment should be made for it. This should be done even when the resource is depleted and there is not much, if any, resource rent being generated. By establishing the practice early on, even if the payment of a fee or levy is token, it establishes the principle that the broader society has a right to benefit from the productivity of the natural capital that belongs to the country and that management of fishing activities is part of the cost of fishing. The principle of rent capture by the Government is not questioned in Namibia today, although there will always be efforts by companies to argue for lower levies to enable them to retain more of the profit.

- **Cost recovery**

Apart from normal company and income taxation, revenue is collected from the industry in the form of quota fees, bycatch fees, the Marine Resources Fund levies, the Fisheries Observer Fund levies and licence fees. These are presented in the table below for the 1994-1999. The costs of management also included in the table, however, do not include those costs effectively covered by donor funding.

**Receipts received by Government from the fishing industry in N\$ '000**  
(data from: Wium, V.H. and A.S. Uulenga (2003)).

	1994	1995	1996	1997	1998	1999
Quota fees	108600	90600	45500	72200	75200	91100
Bycatch fees	9600	8000	14800	5000	6200	9000
licence fees	30	162	162	158	160	172
Marine Resources Fund levies <sup>1</sup>	8600	7200	6100	8300	9900	13300
Fisheries Observer Fund levies <sup>1</sup>	5000	5131	5438	5371	5799	6026
Total revenue	131830	111093	72000	91029	97259	119598
Cost of management	52078	54319	69291	73903	82369	65957
Balance	79752	56774	2709	17126	14890	53641

(<sup>1</sup>These levies are paid directly into the Marine Resources Fund and the Fisheries Observer Fund respectively. Current exchange rate 1US\$= N\$6.9)

The data on donor contributions to the work of the Ministry of Fisheries and Marine Resources (MFMR) shows that between 1995/6 and 1998/9 it ranged between N\$30 million and N\$36 million (MFMR, 1998b) per year. The reliability of these figures is questionable as difficulty assembling

these figures has been experienced by the Ministry<sup>(11)</sup>. It also is not clear what contribution donor funding has made to the normal, essential management expenditure of the Ministry and to what extent the funding could be considered expenditure addressing the pre-independence failures to provide adequately for education and training of a large part of the population. However, it is safe to conclude that, for most of the period since independence, the Government has succeeded in covering management costs by capturing part of the resource rent and, for most years, this revenue has made a net contribution to national revenue.

- ***Estimate of additional rent generated and remaining with the industry***

Data offering direct evidence of rent actually accruing in the Namibian hake fishery (i.e. in addition to that collected by Government) is difficult to come by. However, one indication that rent is being generated is the evidence provided by the informal market for quota. In perfect market conditions, the prices paid to lease quota for the year would reflect a discounted estimate of the resource rent expected from the harvesting of the quota during that year.

On the basis of the prices paid for hake<sup>(12)</sup> quota in Namibia, it is possible to argue that rent to the value of N\$252 million (US\$37m<sup>(13)</sup>), N\$296million (US\$43m) and N\$374 million (US\$54m) accrued to companies in the Namibian hake fishery alone for the years 2000, 2001 and 2002 respectively. These sums may be regarded as conservative estimates of rent not collected by the Government and not dissipated in some other way.

Evidence also exists suggesting that additional potential rent is being lost as a result of some excess capacity in fishing effort and in the processing sector<sup>(14)</sup>.

## Lessons learned

Generally we judge success in relation to other similar experiences. Namibia has been very successful in both the generation of rent and in capturing sufficient rent to cover management costs and provide a net contribution to the national purse. Few other fisheries management authorities have achieved this.

Several lessons can be drawn from the experience of Namibia:

1. Establishing clearly defined and enforceable rights created an incentive structure that contributed significantly to an alteration in behaviour of fishers which, in turn has led to resource rent of significant value being realised. With everything to be gained by using vessels and gear as efficiently as possible, fishing companies have substantially reduced the size of the fleet.
2. Effective enforcement of rules is important in re-assuring fishing companies that their rights were secure.
3. By charging quota fees from the start, when the resource was still depleted, the Namibian Government established the principle early on that payment for gaining benefit from the use of a public resource was normal acceptable practice. Government collection of resource rent is now no longer questioned. This has established a long-term revenue stream for government.
4. The fishing industry has flourished in Namibia since independence with the accumulation of wealth within the industry and investment in processing and other related industries.

## Key literature

Cunningham, S., M. Dunn and D. Whitmarsh (1985). *Fisheries economics: An introduction*. London: Mansell and St Martins.

Manning, P. (2003) The case of the Namibian Hake Fishery. Case-study for the World Bank/SIFAR/IDDRA Project 'Study of good management practice in sustainable fisheries'. Appendix 6.

Wiium, V. H. and A.S. Uulenga (2003) Fishery management costs and rent extraction: The case of Namibia. In: *Costs of marine fisheries management*. Schrank, W.E., R. Arnason and R. Hannesson (eds). Ashgate Studies in Environmental and Natural Resource Economics.

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(1) Resource rents are the profits generated when all costs, including opportunity costs ('normal' profits), have been covered.

(2) The significance of Independence for the Namibian fisheries sector was that the new state could declare an EEZ, effectively asserting jurisdiction over the rich off-shore fishing grounds that had hitherto witnessed an international free-for-all.

(3) This account is based on the work of Manning, P. (2003).

(4) Using April 2004 exchange rates.

(5) See Policy Brief 15: [Some key considerations for improving fisheries management performance](#), and Policy Brief 2: [The reality of success in fisheries management](#), in this series for further discussion of rights.

(6) See: Manning, P. (2000). [Review of the distributive aspects of Namibia's fisheries category](#). NEPRU Research Report No. 21. Namibian Economic Policy Research Unit.

(7) Question by Mr Areas Cantete on behalf of the EPP group, 6 April 1990. European Parliament Document B3-802/90.

(8) Register of Fishing Vessels, Ministry of Fisheries and Marine Resources, Namibia.

(9) e.g. in 1999, two freezer trawlers were known to have harvested 20% of the hake freezer quota. See: Manning, P. (2003).

(10) See: Manning, P. (2004) for an account of this enforcement action.

(11) See: Wium, V. H. and A.S. Uulenga (2003).

(12) Hake accounts for about half of the landed value of all species in the Namibian fisheries.

(13) Using April 2004 exchange rates.

(14) See: Manning, P. (2003).

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