The End of the Line?
Benchmarking South Africa's Traditional Linefishery

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Abstract

In recognition of the increasingly apparent failures of narrowly-targeted traditional management regimes to create sustainable fisheries, the last decade has seen a growing paradigm shift towards a more holistic ecosystem approach to fisheries (EAF). Despite South Africa's commitment to the EAF and the implementation of a new management policy in 2005, the traditional linefishery in South Africa still exhibits many of the problems associated with traditional management regimes. Over the last decade, amidst increasing conflict amongst stakeholders in this small-scale, multi-user fishery, targeted stocks have declined to such a point that the fishery has been declared a state of emergency.

In line with the holistic approach prescribed by the EAF, this dissertation attempts to diagnose the causes of instability within the current economic, ecological, political and institutional ambit of the traditional linefishery within the case study area of the Western Cape Province of South Africa. A stakeholder analysis was conducted and subsequent informal interactions, personal observations and semi-structured interviews with key informants were used to identify issues of concern relating to current management practices in the traditional linefishery

The study's findings suggest that many of the current policy's failures are directly attributable to an insecure property rights regime and a lack of incentive-based policies. Poor regulations and management objectives stem from a lack of reliable biological and socioeconomic data and policy-makers' failure to understand the diverse nature of the fishers targeting the linefish resource. A lack of political will and instability within the government fisheries management institution has further exacerbated conflict within the fishery. In order to facilitate effective co-management structures within the fishery, future EAF-based management efforts need to be directed towards developing alternative livelihoods as well as improving institutional capacity, both within government departments and amongst the stakeholders. Recommendations are provided as to how this could be achieved.

Keywords

EAF, linefishery, small-scale fisheries, South Africa

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List of Abbreviations

ANC:	African National Congress
BEE:	Black Economic Empowerment
CPUE:	Catch Per Unit Effort
DEAT:	Department of Environmental Affairs & Tourism
EAF:	Ecosystem Approach to Fisheries
EEZ:	Exclusive Economic Zone
FAO:	Food and Agriculture Organisation of the United Nations
FCO:	Fisheries Control Officer
HDI:	Historically Disadvantaged Individuals
IR:	Interim Relief
ITQ:	Individually Transferable Quota
LMP:	Linefish Management Protocol
MCM:	Marine and Coastal Management
MLRA:	Marine Living Resources Act
MPA:	Marine Protected Area
MSC:	Marine Stewardship Council
MSY:	Maximum Sustainable Yield
NEMA:	National Environmental Management Act
NGO:	Non-Governmental Organisation
NMLS:	National Marine Linefish System
OMP:	Operational Management Procedures
SFTG:	Subsistence Fisheries Task Group
TAC:	Total Allowable Catch
TAE:	Total Allowable Effort
TEK:	Traditional Ecological Knowledge
TURFs:	Territorial User Rights in Fisheries
WCRL:	West Coast Rock Lobster
WSSD:	World Summit on Sustainable Development
WWF:	World Wildlife Fund for Nature

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"Salut, Dinero, y Amor"

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Freshly caught snoek in Kalk Bay Harbour

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Chapter 1: Introduction

1.1 Background

The last decade has seen a significant paradigm shift occurring in fisheries management regimes around the world, away from traditional biologically-focused approaches towards a more holistic ecosystem approach to fisheries (EAF) (Cochrane 2000, FAO 2003). Central to this new approach is the understanding that humans are an integral component of marine ecosystems and as such management regimes need to consider a number of social, cultural, economic and institutional aspects of fisheries if they are to be effective (Charles 1994, Hilborn 2007, Orensanz *et al.* 2005).

As a signatory of the Implementation Plan agreed upon at the World Summit on Sustainable Development (WSSD), South Africa is committed to implementing the EAF approach in all of its fisheries by 2010. However, while the majority of South Africa's larger commercial fisheries are considered to be reasonably sustainable (Branch & Clark 2006), many of the inshore stocks targeted by the small-scale sector have collapsed as a direct result of management failures. One such fishery is the traditional linefishery.

Similar to other small-scale fisheries around the world, the traditional linefishery has been notoriously difficult to manage. Centuries of unregulated fishing effort from linefishers, trawlers, recreational and subsistence fishers has reduced stock numbers of most of the main linefish species to perilously low levels. As a result, in 2000 a state of emergency was declared in the traditional linefishery and under the new linefish policy rights allocations were dramatically reduced from over 3000 to just 450 countrywide. Subsequent disputes over the equity of these rights allocations as well as the emergence of a new group of subsistence/artisanal fishers claiming rights to the resources have resulted in an impasse amongst stakeholders as to how this fishery should be managed.

The multi-user, multi-species nature of the fishery means that it is essential for management policies to understand and incorporate the integrated and holistic principles embedded within the EAF. In line with the principles prescribed by the EAF, this dissertation attempts to diagnose some of the key weaknesses related to the economic, ecological, political and institutional aspects of the current management regime in the traditional linefishery. These are used as the basis for a number of future policy recommendations which, if carried through, would represent some of the first attempts

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towards implementing the EAF in South Africa's traditional linefishery management regime.

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1.2 Field Research and Methodology

Data Collection

At the outset of the study, after initial discussions with local fishermen and marine environmental consultants in Cape Town, a literature review was conducted to identify the major concerns within the fishery. The lack of reliable quantitative biological and socioeconomic data available for the fishery suggested that a qualitative study in the form of semi-structured interviews would be the most suitable method of analysis. A subsequent stakeholder analysis was carried out based on the process used by Schirmer and Casey (2005) in their guide to implementing the EAF in Australian fisheries. In consultation with the Marine and Coastal Management (MCM) branch of the Department of Environmental Affairs and Tourism (DEAT) responsible for fisheries management as well as scientific/academic researchers and environmental consultants working in the field, the process identified a number of potential participants for the study. Further participants were later identified by snowball sampling (de Vaus 2002) during the research period itself and were subsequently incorporated into the analysis.

Data was gathered in the form of approximately 25 semi-structured interviews with key informants identified during the stakeholder analysis. Each interviewee was asked a number of semi-structured questions regarding their opinions on pre-identified issues within the fishery as well as to identify their own major concerns. Where possible both quantitative and secondary data was also gathered from the stakeholders themselves including fishers' financial records, catch data, newspaper clippings, NGO newsletters and rights allocation decision spreadsheets.

Interviews were generally informal and were conducted in either English or Afrikaans. They took place at a number of locations ranging from the participants office to the quayside of local harbours. In cases where travel distances were limiting, interviews were conducted telephonically. As far as possible, two or more representatives from each stakeholder group were interviewed in order to triangulate the information provided. In some cases the singular nature of the position meant that this was not possible (eg. director of inshore resource management at MCM). A number of participants were interviewed more than once as the study progressed which enabled more in-depth discussions of some of the issues.

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Set Up & Study Site

The field period ran from 5 February to 29 March 2008 and was conducted solely in the Western Cape Province of South Africa (See Figure 1). The Western Cape was the obvious candidate in terms of study sites because of its dominance within the linefish sector, historically accounting for majority of all linefish landings (Sauer *et al.* 2003b).

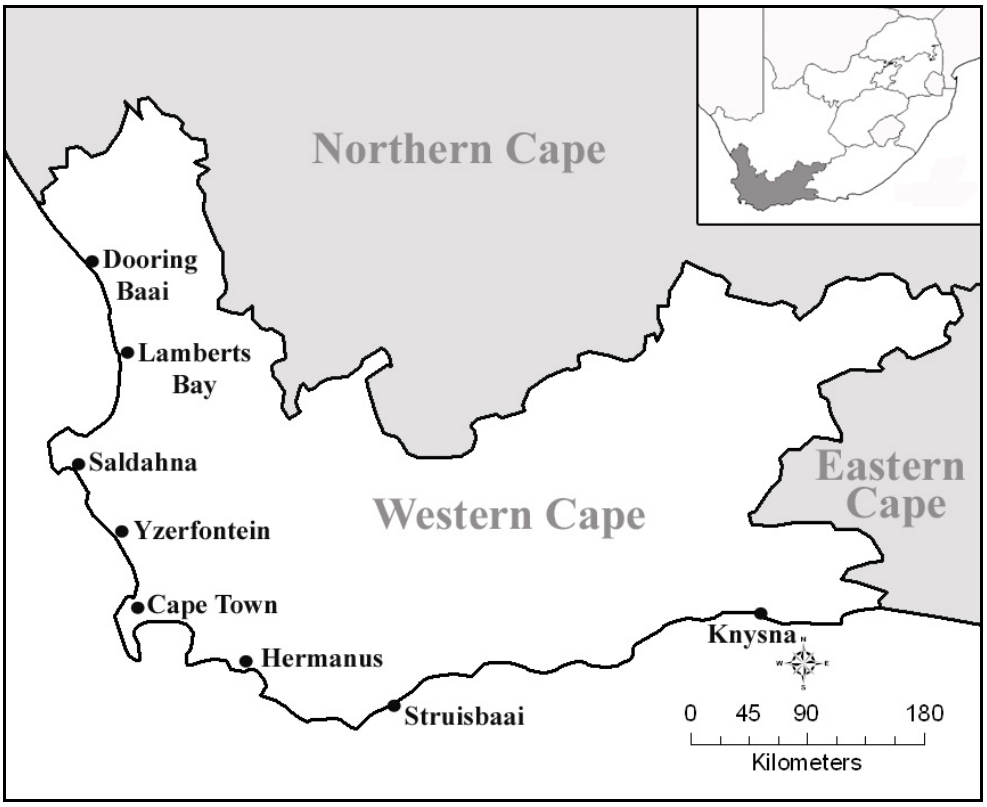

Figure 1: The Western Cape Province in South Africa

The bulk of the fieldwork was done in and around the city of Cape Town as this is where MCM's head offices are located; it is also where the majority of the interviewees lived. Further interviews were conducted with fishers in the smaller coastal towns of Yzerfontein, Saldahna, Lamberts Bay and Dooring Bay.

Stakeholders

The stakeholder analysis identified a broad range of actors within the linefishery ranging from fishers to local fish shop owners and tourist operators, however, it was decided to limit to scope of the work to stakeholders who were directly involved in the fishery. These stakeholders were subsequently divided into three main groups:

- *Fishers*: Due to the current debate surrounding who should be considered a fisher, delineating this group became a complex issue. For the purpose of this study, a broad approach was taken whereby any group of people claiming rights to the fishing resource were included under this heading. This group was divided into

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current rights-holders and a broader group of fishers who were unsuccessful in the rights allocation processes, most of whom would fall under the category of artisanal fishers. Representatives interviewed from these groups included chairpersons of both provincial and national commercial linefishers and artisanal fishers associations as well as local representatives of coastal fishers' associations in the Western Cape and some independent fishers.

- *Management:* Although non-governmental consultants assist in policy formulation, management of the fishery is solely under the aegis of MCM. Within MCM the directorates for marine and coastal resource management and research, Antarctica and Islands are directly responsible for policy formulation and the daily management of the linefishery. Within these directorates the Head of Research, Director of Inshore Management, both the chief technical officer and scientist of the linefish division were interviewed. Informal discussions were also held with local fisheries control officers (FCO's) responsible for compliance in some of the smaller fishing towns visited.
- *Academic/Scientific Research Community & NGOs*: This group covered all the other stakeholders in the fishery. It included a number of scientists (both natural and social) from local academic institutions, some of whom had been involved in policy formulation[1]. Local environmental consultants and an NGO working with small-scale and traditional fishing communities were also consulted. (See Appendix A for a full list of organisations consulted)

Practical limitations

Given the practical and time constraints of this study it was unfeasible to cover all of the regions in the traditional linefishery. The study thus only covers the linefishery in the Western Cape which has considerably different characteristics in terms of the species targeted and number of fishers compared to the linefishery in the Easten Cape and KwaZulu Natal. However, the general recommendations made in this study should still be applicable to these other sectors considering that they all fall under the same management system

[1] Due to budgetary constraints, MCM relies heavily on contracting consultants to conduct research for it, thus there is often an overlap of opinions between government and non-government scientists.

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Ethical concerns

All interviews were done with the guarantee of anonymity and thus encouraged open and frank discussion of the issues at hand. There are a number of different organisations/individuals with different agendas operating in this field and thus there is a considerable amount of distrust amongst the stakeholders.

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1.3 Overview of Study

After this introduction, the second chapter briefly outlines the history of global fisheries management systems and the development of the Ecosystem Approach to Fisheries (EAF). It goes on to describe the nature of small-scale fisheries and highlights areas of specific concern for management of these fisheries. It concludes with a section on the research objectives of this study.

The third chapter provides a background to fisheries management in South Africa in general and the traditional linefishery specifically. Current overall trends within the fishing industry are discussed under the general headings of ecological, socioeconomic and institutional sustainability. It goes on to describe a detailed history of the traditional linefishery and concludes by outlining the current policy governing the traditional linefishery.

The fourth chapter presents the results of discussions with stakeholders in the traditional linefishery. The current policy goals as well as other issues/concerns brought up during the interactions with stakeholders are categorised and discussed under the headings of threats to economic, ecological, political and institutional sustainability.

The last chapter presents a number of recommendations for future policy based on the issues highlighted in the previous chapter and are aimed at providing some of the first steps towards implementing the EAF's principles in the traditional linefishery. The study concludes with a brief discussion of possible alternative property rights regimes in the traditional linefishery and the future of South Africa's small-scale fishing sector in general.

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Chapter 2: Global Fisheries Management

2.1 An Ecosystem Approach to Fisheries

Throughout the world, marine capture fisheries are in a state of crisis (Caddy & Seijo 2005, Cochrane 2000, Hilborn *et al.* 2003). Despite more than a century of management attempts and the progressive development of international fisheries science, governance regimes have been unable to stem the attrition of global fisheries and their socioeconomic knock-on effects (Cochrane 2000).

Ecologically, marine capture fisheries are in a state of decline. The agency responsible for monitoring global fish stocks, the Food and Agricultural Organisation (FAO), notes that since the inception of global stock monitoring in the 1970's, there has been a consistent downward trend in the number of underexploited fisheries and concomitant increase in the number of overexploited and depleted stocks (see Figure 2). Further exacerbating the problem is the practice of 'fishing down food webs' (Pauly *et al.* 1998) which results in the breakdown of intricate marine foodwebs and ultimately in the domination of marine ecosystems by undesirable species from lower trophic levels (Pauly *et al.* 2002).

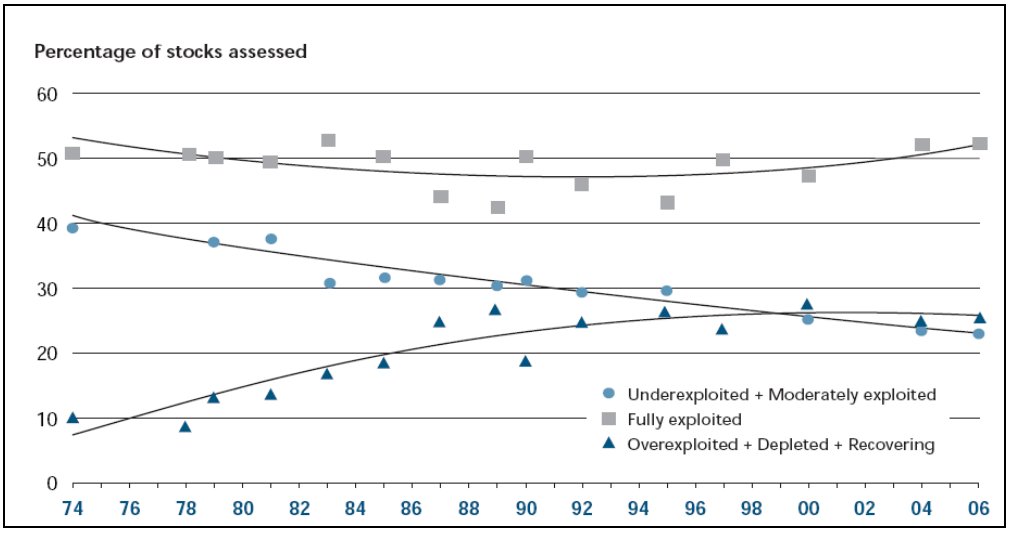

Figure 2: Global trends in the state of marine stocks since 1974.
(Source: FAO 2006)

Economically there is evidence to suggest that in terms of direct economic gains, global fisheries are currently making a net loss (Cochrane 2000). In many parts of the world government subsidisation has resulted in massive overcapacity of fishing fleets, particularly in developed regions such as Europe and North America, with the unintended

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(but still acknowledged) result that operating costs of the global fishing industry exceed gross revenues by approximately $60 billion (Christy as quoted in Cochrane 2000)

Socially, the ever-extending reach of globalisation has resulted in the modernisation and increasing industrialisation of fisheries. Often this has come at a high price to the traditional small-scale artisanal and subsistence fisheries which have subsequently suffered from the loss of access to traditional fishing grounds, revenues from fisheries and fish in their diets (Hanna 1999). Their lack of political power has meant that governments have tended to prioritise larger export-oriented fisheries over these smaller-scale fisheries (Adams 1998) with the result that many traditional fishing communities continue to be marginalised. The subsequent impoverishment and loss of culture in these communities has become a major issue amongst fishing communities all over the world but particularly in developing countries (Andrew *et al.* 2007).

An Ecosystem Approach to Fisheries

Amidst these crises, there is a growing consensus that traditional fisheries management systems have failed at their fundamental goals of ensuring the sustainable use of resources and ecosystems at economically and socially beneficial levels (Cochrane 2000). The new model emerging acknowledges that sustainability is far more complex than once thought (Caddy & Seijo 2005) and requires a more holistic ecosystem approach to fisheries (EAF) management; one which recognises that fisheries are in fact intricate multi-component systems consisting of far more than just the targeted species (see Figure 3).

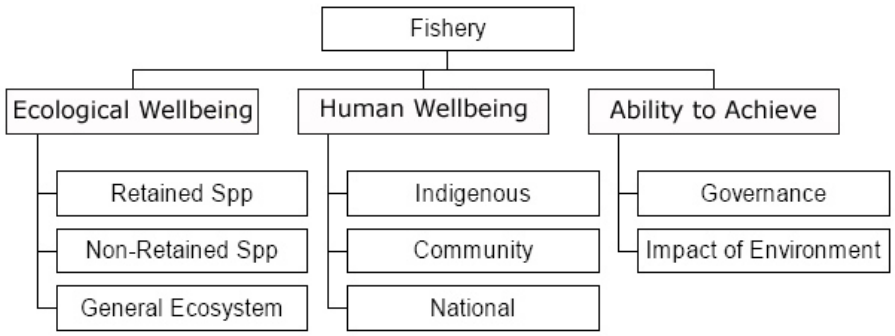

Figure 3: Component tree for marine capture fisheries (Source: Fletcher *et al.* 2002)

Contrary to previous preservationist theories, contemporary discourse in natural resource management increasingly recognises the role of humans as integral components of natural ecosystems (Hulme & Murphree 1999). Historically, the tendency of managers and policy-

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makers to view humans as separate entities to the ecosystems being managed has resulted in the exclusion of relevant socioeconomic and institutional aspects of resource management from policy frameworks. In recognition of this, the word 'ecosystem' in the EAF context is used in its broadest possible definition, so as to include both socioeconomic and governance aspects related to the human component of marine ecosystems (Nel *et al.* 2007). As such, the EAF as defined by the FAO:

> *"strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries"* (FAO 2003).

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2.2 Small-Scale Fisheries and the EAF

While the rhetoric of the EAF promises a new era of participatory fisheries management, the challenge of implementing the EAF's principles into ground-level management schemes remains significant; this is particularly true of the small-scale fisheries around the world which have historically been notoriously difficult to manage (Orensanz *et al.* 2005).

Small-scale fisheries encompass a broad spectrum of ecological and social contexts ranging from subsistence shore-based fishers to artisanal fishers who fish from boats and sell their catch commercially. Although there is a lack of consensus as to the exact definition of these fisheries because of their shifting and opportunistic nature (Branch *et al.* 2002), Sunde and Pedersen (2007) use the following definition which is broadly applicable to the South African context:

"The small-scale sector comprises all those who harvest marine resources on or within the near shore sector, use no or relatively low technological gear and who have traditionally depended on these resources for their livelihoods, ranging from those who harvest primarily for food security and to put food on the table to those who sell their catch in order to sustain their livelihoods. In addition, small-scale fishers are predominantly personally involved in the harvesting of the resource".

Despite providing livelihoods to millions of coastal populations, due to the lack of political power within subsistence and artisanal fishing communities, small-scale fisheries traditionally suffer from insecure property/fishing rights and poor management regimes as few governments consider them as major contributors to their Gross Domestic Product (Chuenpagdee *et al.* 2006). As such, they are often characterised by conflicts arising from disputed or inappropriate rights regimes as well as a lack of enabling legislation, weak implementation and highly politicised management at all levels (Andrew *et al.* 2007). Managing these fisheries effectively requires policies that give specific attention to creating meaningful incentives and secure property rights, which are discussed below:

Incentives and Objectives

Central to the EAF is the need move away from the traditional 'top-down' regulatory approach and to instead develop incentives which work indirectly through affecting the specific factors that lead to particular individual or collective choices, and, in doing so, promote the wise long-term stewardship of the fisheries resource (FAO 2003). Designing

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effective incentives presents policy-makers with a significant challenge as it requires an understanding of the inherent tradeoffs between the competing interests of all stakeholders (eg. fishers, conservationists, government) within the fishery (Charles 1994) as well as the social and economic drivers of these interests. In the past, narrowly-designed fisheries management regimes have tended to focus on the biological aspects of fisheries to the exclusion of important economic, social and political factors (Cochrane 2000). The inability/unwillingness of policy-makers to explicitly deal with the conflicting interests of the different stakeholders has often resulted in a default/traditional management situation occurring where high levels of fishing effort produce relatively few economic returns at great cost to ecosystem preservation (see Figure 4). This is a classic case of Hardin's (1968) 'Tragedy of the Commons' which is so often referred to in fisheries management.

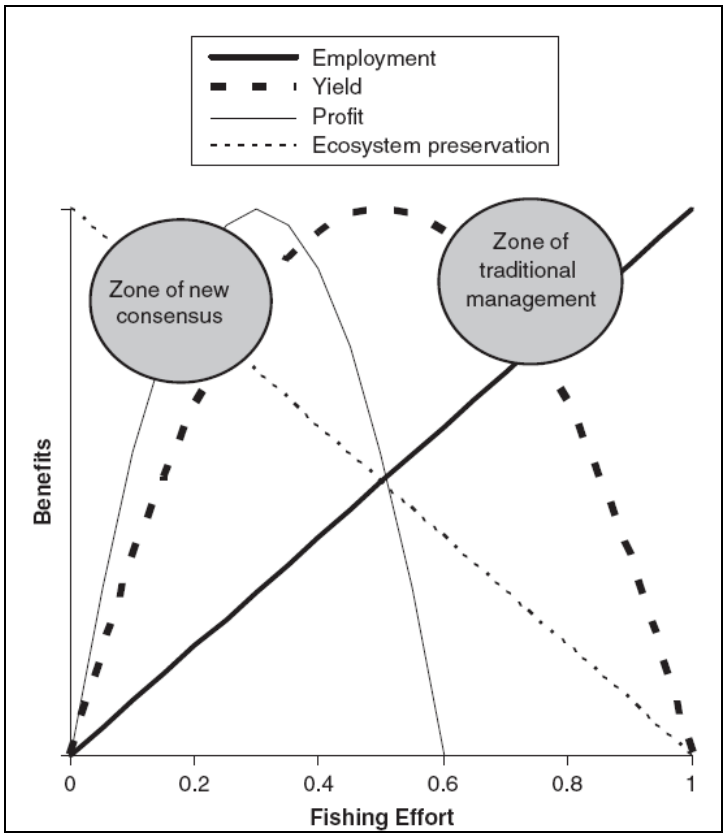

Figure 4: The relationship between fishing effort and benefits derived from different objectives
(Source: Hilborn 2007)

Understanding the drivers behind competing interests within a fishery is particularly important in the small-scale fishery sector in which there is often a very diverse range of economic, social and political objectives amongst the stakeholders. Implementing unpopular 'command-and-control' approaches is unlikely to achieve much success in this sector where effective accountability and enforcement are almost impossible (Orensanz *et al.* 2005). In keeping with the growing trend in natural resource management, the EAF

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explicitly acknowledges that fisheries management measures require far greater levels of stakeholder participation and consensus-based decision-making processes in order to be effective. Past experience has shown that without it there is likely to be reduced legitimacy of the resultant management decisions and subsequent problems with non-compliance (Hauck & Kroese 2006, Leadbitter & Ward 2007, Potts 2006).

Property Rights

The EAF also emphasises the need to develop an appropriate and secure rights-based management approach within fisheries to ensure that fishing capacity and effort correspond to the productivity of the resource. This in turn contributes to the 'ownership' and subsequent conservation of the resource. The current trend in many fisheries is to move towards an economically efficient Individual Transferable Quota (ITQ) system in which the Total Allowable Catch (TAC) is divided into smaller quotas which are allocated to authorised users. However, market-based approaches such as ITQ's may not be appropriate to the management of small-scale fisheries (Caddy 1999) in which the effectiveness of catch and effort controls is questionable and social values and community welfare are often valued above economic efficiency (Copes & Charles 2004).

In this regard a number of alternative management mechanisms have been suggested in the form of community-based natural resource management (CBNRM) systems (Copes & Charles 2004, Wingard 2000). These more collective approaches recognise that fisheries are public resources and should be managed for the benefit of all rather than just the individual fishers. Examples from Papua New Guinea (Cinner *et al.* 2005) and Fiji (WRI 2005) show that, unlike in bigger commercial fisheries, traditional village communities which are strongly dependant on fishing as their primary means of subsistence have been able to sustainably manage their resources using locally established rules and taboos.

Many of these community-based approaches employ a system of territorial user rights to fisheries (TURFs) which operate by assigning fishers territories rather than actual fish. The fishers themselves are subsequently able to decide on their own harvesting limits and regulations. These place-based approaches allow a broader multi-species/ecosystem approach to fisheries management, something which more and more ecologists are promoting and cannot be achieved with regular ITQ systems which are generally based on single-species fisheries (Copes & Charles 2004). However, it is also important to note that these systems often rely on a combination of biological and socio-economic factors

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converging in order to function successfully. Charismatic community leaders, well established cultural management systems, sedentary resources, large distances to markets and small coastal populations (Cinner *et al.* 2007) all appear to be very important factors in successful community management systems. How easily these conditions can be simulated in more urbanised areas remains to be seen.

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2.3 Research Objectives

At the WSSD in Johannesburg in 2002, South Africa committed itself to the adoption of the EAF in all its fisheries by 2010 and to restoring depleted stocks to levels that can produce their maximum sustainable yields (MSY) by 2015. This remains a significant challenge for fisheries management in South Africa. Although most of the major commercial fish stocks in South Africa are considered to be healthy, many of the inshore stocks targeted by the small-scale fishing sector are either overexploited or collapsed (Branch & Clark 2006). Despite the severely depleted status of some of the inshore resources which it targets, this sector has not been prioritised by fisheries managers. The current state of emergency in the traditional linefishery is symptomatic of this neglect.

The traditional linefishery's multi-user, multi-species nature suggests that it is essential for management policies to understand and incorporate the integrated and holistic principles prescribed by the EAF. The current collapse of most linefish stocks and conflict over property rights within the fishery further strengthen this conclusion. In line with the EAF's principles, this study focuses on diagnosing some of the key weaknesses of the current management approach in the traditional linefishery and in the process attempts to benchmark the current status of the fishery against the policy objectives set out in the long-term policy under which it is managed. Using the headings identified in van Sittert *et al*'s (2006) recent review of South Africa's fisheries, issues are described and categorised under issues affecting the economic, ecological, political and institutional sustainability of the fishery. Understanding these issues can help to inform future policy decisions by highlighting areas in which incentives for sustainable use are lacking. Ultimately, the goal of this research is to assess what changes need to be made to the current policy in order for it to achieve the goals of sustainable fisheries management as defined by the EAF and in so doing lay the foundations upon which a future EAF-based management might be implemented.

Although the main objective of this research is to produce recommendations for future policy processes, it is also hoped that it might shed some light on the relative positions of the different stakeholders within the fishery and in doing so promote cohesion in what is currently an extremely divided fishery.

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Chapter 3: South Africa's Traditional Linefishery

3.1 South African Fisheries

With the country's first democratic elections and the end of the Apartheid regime in 1994, the political landscape in which natural resource management occurs in South Africa has undergone a significant paradigm shift. In the wake of segregationist Apartheid policies, the new ruling party, the African National Congress (ANC) embarked upon a series of reforms aimed at redressing past injustices and achieving equitable distribution of the country's fisheries resources (Witbooi 2006). This has resulted in policy-makers being presented with an increasingly complex set of social and economic objectives on top of the ecological imperative of sustainability. These include: the redistribution of fishing rights to historically disadvantaged individuals (HDI's), poverty alleviation within coastal communities, the need to maintain international competitiveness in the fishing industry and the avoidance of capital flight (Isaacs *et al.* 2007).

The framework for marine resource management in the post-Apartheid era was laid out in the Marine Living Resources Act (MLRA) of 1998. This act, which was a result of four years of intensive deliberations and negotiations between the fishing industry, workers unions and the state (Hersoug & Holm 2000), has three broad objectives:

1. ***Sustainability***: In recognition of the principles embodied in the National Environmental Management Act (NEMA) of 1998 the act emphasised that fishing should be done in sustainable manner that preserves ecosystem integrity and "conserves resources for the present and future generations" (DEAT 1998).

2. ***Economic Efficiency***: It also states that fisheries resources should be optimally utilised so as to create economic growth and employment. Although it was disputed at the time, the decision was made that the management system should be broadly based on an Individual Transferable Quota (ITQ) system in keeping with current global trend towards this economically efficient mechanism. One of ways in which this was to be achieved was through the allocation of long-term rights (8-15 years) to promote stability and international competitiveness within the industry.

3. ***Transformation***: The act emphasised the need to "restructure the fishing industry to address historical imbalances" (MCM 1998). Although it was not stated how this

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was to be achieved, both internal and external transformation[2] of the industry have been attempted. Importantly, the act also recognised the subsistence fishing sector for the first time in addition to the commercial and recreational sectors. (See Appendix B for the complete list of principles and objectives of the MLRA)

Under the MLRA, policy makers at MCM were tasked with rewriting the overall fisheries policy as well as sector-specific policies for South Africa's 21 commercial fisheries. The intention was to codify South Africa's previously disjointed fishing industry under one unifying framework in order to enable the allocation of medium (2002-2005) and ultimately long-term (2006-2013/20) fishing rights. The current status of South Africa's marine capture fisheries is expanded upon in the next sections:

Ecological Sustainability

South Africa appears to have managed its fish stocks relatively well compared to most other nations (Payne & Bannister 2003). Despite the challenges posed by racial transformation of the post-Apartheid fishing industry, the majority of South Africa's major fish stocks have remained stable or have improved over the last decade (van Sittert *et al.* 2006). Two of the reasons given for the success of fisheries management in South Africa are its long history, the first fisheries manager was appointed in 1896, and the successful exclusion of foreign fleets from its Exclusive Economic Zone (EEZ) prior to 1960's (Payne & Bannister 2003).

Management efforts of the bigger commercial fisheries have been far more successful than they have in the smaller fisheries. The Marine Stewardship Council (MSC) certification of the deepsea hake (*Merluccius spp*) fishery in 2004 is indicative of this (Mather 2007). This is also evident from Figure 5 on the next page which indicates that the majority of optimally/fully exploited resources are targeted by the large-scale commercial sector (fishing types 1 & 2). Resources targeted by the small-scale sector (fishing types 3 & 4), particularly the economically valuable species such as linefish and highly prized abalone (*Haliotis midae*), are either under or overexploited. One of the reasons for this is that while many of the larger, more commercial fisheries are protected from overharvesting because

[2] Initially the government attempted to restructure the fishing industry by awarding rights to a number of new HDI entrants (i.e. external transformation), however, due to the lack of capital/expertise and severe opposition from the established fishing industry this approach was largely unsuccessful. They subsequently embarked upon internal restructuring of these larger fishing companies (i.e. internal transformation).

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of the significant barriers to entry to the fisheries, the easily accessible nature of the inshore resources makes them vulnerable to uncontrolled overexploitation.

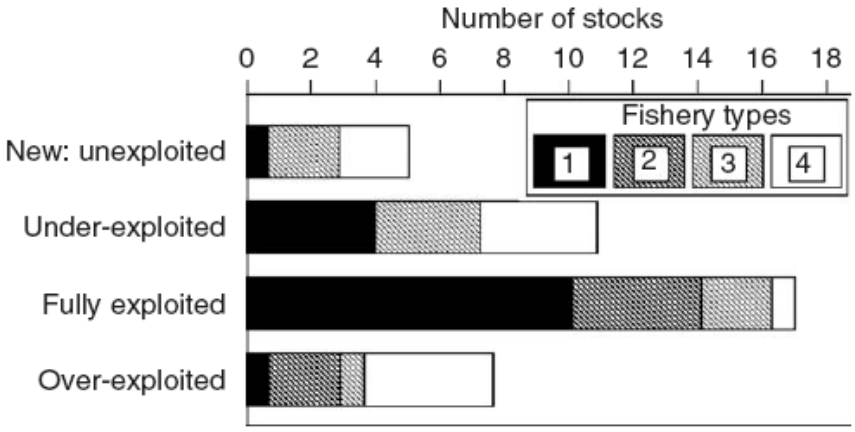

Figure 5: Breakdown of exploitation status of natural resources in South African fisheries Fishery types broadly refer to (1) Offshore large commercial, (2) Inshore large commercial, (3) Inshore small commercial and (4) Subsistence (Source: Branch & Clark 2006)

It is also important here to note that historically, fisheries management in South Africa has relied almost exclusively on biological information, with little to no input from the economic or social aspects (Oosthuizen *et al.* 2007). The WWF's recent ecological risk assessments (Nel *et al.* 2007) of the demersal hake, West Coast rock lobster (WCRL, *Jasus lalandii*), squid (*Loligo vulgaris reynaudii*) as well as the small and large pelagics fisheries represents one of the first attempts to incorporate social and economic aspects into fisheries management.

Socioeconomic Sustainability

Under the previous Apartheid government the R 3.5 billion/year fishing industry[3] (FAO 2007) had been dominated by an elite group of white-owned companies with over 70% of the Total Allowable Catch (TAC) being owned by the ten largest companies (Hersoug & Holm 2000). However, the last decade has seen some significant changes take place. Although there is still disagreement on the nature of the transformation[4], commentators agree that post-Apartheid policies have undeniably broadened access and "blackened" South African fisheries (van Sittert *et al.* 2006). By 2005, HDIs accounted for 85% of the workforce, 77% of the salaries and 62% of the TAC (compared with 0.75% in 1994) (Branch & Clark 2006) (see Figure 6)

[3] Exchange rate for South African rand is approximately ZAR 7.5 to US$ 1

[4] Due to the failure of external transformation, much of the transformation that has occurred has been through the government's Black Economic Empowerment (BEE) program. While this has seen an increase in black ownership of established fishing companies, many feel that the *bona fide* smaller fishers have not benefited from transformation (See Isaacs *et al.* 2007 for further discussion of this).

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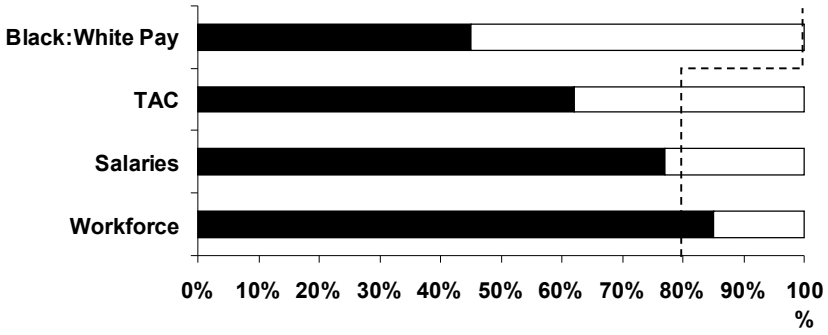

Figure 6: Breakdown of race in the South African commercial fishing industry Demographic groups consist of black (closed bars) and white (open bars). Black:White pay indicates the ratio of salaries for black and white employees. The dotted line indicates the 80% transformation target (source: Branch & Clark 2006)

One of the biggest challenges of the last decade has been the incorporation of the subsistence sector into South Africa's fisheries. During the Apartheid era, although coloured and black subsistence fishers had been excluded from direct legal access to the inshore marine resources, most had continued to fish illegally or under the guise of recreational fishers (Sowman 2006). The MLRA's recognition of these subsistence fishers as a legitimate group resulted in massively increased expectations from this sector; however, it was unclear how this sector should be accommodated within the existing structure of South African fisheries.

In 1999 a Subsistence Fisheries Task Group (SFTG) was established with a mandate to define subsistence fishers in the South African context and the stocks which they would harvest as well as making recommendations as to how this fishery should be managed (Sowman 2006). Prior to the first rights allocation process, the SFTG recommended that MLRA's definition of subsistence fishers had been too narrow and had excluded a group of *bona fide* artisanal[5] fishers who would prefer to gain commercial rather than subsistence rights. It recommended that in addition to subsistence fisheries, a new small-scale commercial fishing sector should be created which would be allowed to target high-value inshore resources such as abalone, WCRL and linefish (Isaacs 2006). This new fishery would operate primarily in the Western Cape as it was felt that there were no real subsistence fishers in this province (Clark *et al.* 2002).

[5] There is a lack of clarity on the definitions amongst this group of fishers. From this point on artisanal fishers will refer to fishers who harvest both for personal consumption and commercial sale, subsistence fishers will refer to fishers who harvest mainly for personally consumption.

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However, instead of creating a new policy for this sector MCM rather encouraged artisanal fishers to apply for rights within these commercial fisheries, indicating that preference would be given to black[6] traditional fishers. During the medium-term rights period, this group was allocated approximately 18% of the WCRL and 29% of the abalone TAC (Sowman 2006). Due to the state of emergency in the linefishery there was not much room to accommodate new entrants in this fishery (this is discussed further on). While these new allocations have led to socioeconomic improvements for the new rights-holders in these fisheries, the allocation process has caused serious divisions within many coastal communities. Despite an intensive application process, many claim that these allocations were biased or at best arbitrary, with no clear reasons given as to why some were successful and other weren't (see Appendix D1). Although the limited nature of the resources meant that many of the applicants were always going to be unsuccessful, because of the expectations raised prior to the allocation process and the subsequent lack of clarity during the allocation process, there was widespread unhappiness amongst this group of fishers after the allocations were announced. The issue of how this group of subsistence/artisanal fishers can be equitably incorporated into South Africa's general fishing policy remains largely unresolved.

Institutional Sustainability

The last decade has also seen significant changes at the institutional level for fisheries management in South Africa. With the passing of the MLRA in 1998, a major restructuring of the institutions responsible for fisheries was required in order to deal with the expanded management mandate set out in the act. Prior to 1994, MCM, then known as the Sea Fisheries Chief Directorate, concerned itself almost exclusively with the natural science aspects of fisheries management, in which it had achieved notable success. In the interim MCM has become responsible not only for the rights allocation and redistribution process but also for compliance (Hauck & Kroese 2006). This expanded mandate has created an organisational crisis as many of the marine scientists employed were unable or unwilling to deal with these new demands and have subsequently left the organisation. Van Sittert *et al* (2006) note that in 2006 out of the total of 684 approved posts, only two thirds or 471 are filled. The government's BEE policy has also resulted in many of the posts being 'frozen' until a suitable black candidate can be found for the job.

[6] "Black" in this context is used to describe all non-white races.

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3.2 Traditional Linefishery

South Africa's linefishery is recognised as the oldest commercial fishery in the country and as such plays an important role in the identity of its fishing community, particularly in the Western Cape where the fishery originated. Unlike most other marine resources in South Africa, linefish are targeted by all three groups of fishers recognised in the MLRA (commercial, recreational and subsistence). Within the commercial sector they are directly targeted by the linefishery but are also caught as bycatch in most of the other fishing sectors, most notably the demersal sector (see Figure 7).

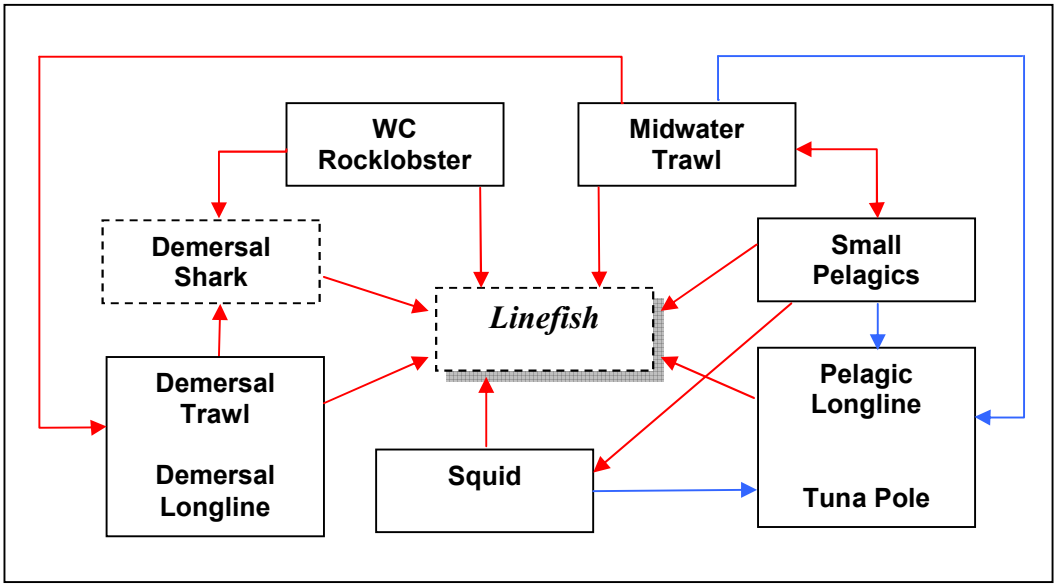

Figure 7: Interactions between and within South African fisheries sectors
This diagram was produced as a result of the WWF's ecological risk assessments of South Africa's fisheries (see Nel *et al.* 2007). Red lines indicate direct impacts and blue lines an indirect impact. The sectors outlined with a broken line were not assessed.

The commercial linefishery is entirely boat-based. Fishing activities are carried out on boats of 4.5 to 15 metres in length using a rod-and-reel or handline. There is a restriction of 10 hooks per line (MCM 2005) to differentiate linefishing from longlining. There are two main types of boats which operate in the commercial fishery, traditional *chuckies* (deckboats) (see Figure 8) and ski-boats (see Figure 9). The latter are generally smaller, faster and highly mobile while the former are older, larger vessels which are generally restricted to areas around their home port. Each boat employs 7 crew members on average. Traditionally, rural fishers have also harvested the linefish resource using rowboats (see Figure 10), however, these were not considered part of the commercial fishery.

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Today's linefishery is still dominated by Afrikaans-speaking coloured[7] fishermen who see themselves as the original fishing community in the Western Cape. Prior to the rights reductions in 2003, the linefishery was considered to be both the biggest employer and least capital-intensive of any of South Africa's commercial fisheries and as such also produced the lowest average income per fisher (Sauer *et al.* 2003a). It is still extremely traditional in nature and is characterised by insecure labour relations and *ad hoc* employment of crew. While the captains are generally the rights-holders and owners of the boats, the crew operate as individuals, moving from boat to boat and town to town depending on where they see the best opportunities. As payment for their position on a boat, fishers cede 50% of their catch to the captain/owner of the boat but take no responsibility for the costs (fuel, bait, maintenance etc…) incurred by the boat.

Although the linefishery extends along the entirety of the coastline, the Western Cape has traditionally been, and still is, the centre of commercial linefishing in South Africa. Western Cape fishers target approximately 40 species of which only 20 are regarded as economically important (Sauer *et al.* 2003b) with by far the most important species being the snoek (*Thyrsites atun*), constituting approximately 75% of the total catch (NMLS 2006). Although the majority of all linefish landings occurring in the Western Cape (Sauer *et al.* 2003b), due to the differing biogeographical conditions, the Eastern Cape and KwaZulu Natal linefishery target a broader array of species, most of which do not occur in Western Cape waters (For a list of the main commercially targeted linefish species see Appendix C).

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[7] It is important to note that contrary to international usage, in South Africa the term 'coloured' refers to people of mixed race largely descended from interbreeding between European settlers, local tribes and slaves.

Figure 8: Traditional deckboat or *chuckie* in Kalk Bay harbour in Cape Town (Image by Bobeans http://www.flickr.com/photos/7227075@N03/461485147/ Used under Creative Commons License)

Figure 9: Linefishing ski-boat going out to sea (Image courtesy of James Gates)

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Figure 10: Rowboats or *bakkies* used by rural coastal artisanal fishers (Source: Author)

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3.3 History of the Linefishery

Although local, indigenous groups were exploiting marine resources as far back as 125 000 years ago (MCM 1997), the use of hooks and lines in South African waters can trace its roots back to the arrival of early Portuguese explorers at the end of the 15th century (Gates 2001). However, it is unlikely that these early explorers utilised the resource for anything more than to supplement their on-board rations. The first established fishing activities began with the arrival of the Dutch settlers under Jan van Riebeeck in 1653. Despite the abundant marine resources, the Dutch emphasis on agriculture meant that fishing was not encouraged and in 1657/8 van Riebeeck passed South Africa's first fishing regulations stating that any freeman could fish "but not for the sake of selling" (Thompson 1913).

The arrival of British colonists and their subsequent occupation of the Cape in 1795 signalled the deregulation of the fishing industry. Under the new open-access conditions fishing rapidly became an important livelihood and by the mid 1800's the linefishery had become a thriving industry (Lees 1969 in Gates 2001). Unlike many other industries under colonial rule, the linefishery, probably as a result of the strenuous nature of the work, was not restricted to certain racial groups and was renowned for it heterogeneous appearance. The abolition of slavery in the Cape Colony in 1834 had meant that there were large number of ex-slaves present in the Cape (predominantly coloured slaves of Malaysian origin) at the time who increasingly came to dominate the easily accessible linefishery. By the 1880's, however, this had begun to change with the arrival of European immigrants/fishermen from Greece, Portugal, Spain among many others (Franck & Robb 1975).

The next important phase in the development of the linefishery was the arrival of the first trawlers in Cape Town in the late 1880's. From the outset, linefishers were in opposition to the trawling industry accusing it of destroying the seabed and depleting local linefish stocks. However, the small-scale nature of the linefishery and lack of political power compared to the industrialised trawl industry meant that their complaints were largely ignored. It was only in 1928, after overwhelming evidence of the depletion of local stocks, that the government imposed the first restrictions on the trawling fleet (Gates 2001). In 1940, in response to fears of overfishing, the government also introduced the first regulations for the linefishery in the form of minimum size limits and closed seasons.

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The end of the Second World War signified the start of a new era. Technological advances made during wartime were put to work in fisheries. Motorised iron-built boats began to replace the traditional deck boats and more small boat harbours began to spring up along the coastline. The war also opened up previously unexploited global markets, significantly increasing the international demand for South Africa's fish products. These technological and market-driven changes led to considerable increases of effort in the linefishing industry, resulting in record landings for the post-war years which eventually peaked in the late 1960's and have declined ever since (Gates 2001).

By 1985 it had become clear that the number of fishers accessing linefish resources had become unsustainable. In an effort to restrict further entry into the linefishery, the government introduced the first linefish licensing system, effectively freezing commercial effort at 1984 levels. The two-tiered system recognised almost all the vessels that applied, about 3000 in total, as either A (fully commercial) or B (part-time commercial) operators (Sauer *et al.* 2003b). A number of other regulations were also enacted; including bag and size limits for commercial and recreational fishers, the division of linefish species into categories based on their perceived vulnerability and the introduction of closed seasons for certain species. The main objective of these regulations was to shift the fishing effort from vulnerable reef dwelling species towards more resilient shoaling species such as snoek and yellowtail (*Seriola lalandi*) (Griffiths *et al.* 1999).

From 1984 to 2000 attempts were also made to reduce excess effort on the threatened traditional linefish stocks by dividing the fishery into 3 new single-species fisheries and what is now referred to as the traditional linefishery. Although they were still allowed small bag limits of some of the traditional linefish species, these new single-species fisheries (squid jigging, hake handline, tuna (*Thunnus spp*)) were generally deemed to be ecologically sustainable and commercially viable without needing access to the traditional linefish resources. In 1999, a Linefish Management Protocol (LMP) was designed by MCM which incorporated a number of species-specific management plans which included long-term goals for stock numbers, biological reference points and management actions needed to achieve these goals (Griffiths *et al.* 1999).

Despite the government's management efforts, in December 2000, the minister of Environmental Affairs and Tourism declared that the linefishery was in a state of emergency. Findings from the most comprehensive analysis of linefish stocks to date

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indicated that almost all of the commercially targeted linefish populations had collapsed with catch per unit effort (CPUE) reductions of over 75% and exploitable biomass at less than 10% of pristine levels (Griffiths 2000). Hardest hit had been the territorial reef species like the red roman (*Chrysoblephus laticeps*) and red steenbras (*Petrus rupestris*), many of which are long-lived and only reach sexual maturity relatively late in their lives. The only exceptions to these collapses were the more resilient pelagic nomad species such as snoek and yellowtail whose unpredictable location and faster breeding patterns enabled quicker stock recovery (Griffiths 2000). Under the state of emergency the government decided that management would be continued on an *ad hoc* basis until the allocation of medium-term fishing rights under the new fisheries policy began in 2002 (see Figure 11 for a timeline of the fishery's history).

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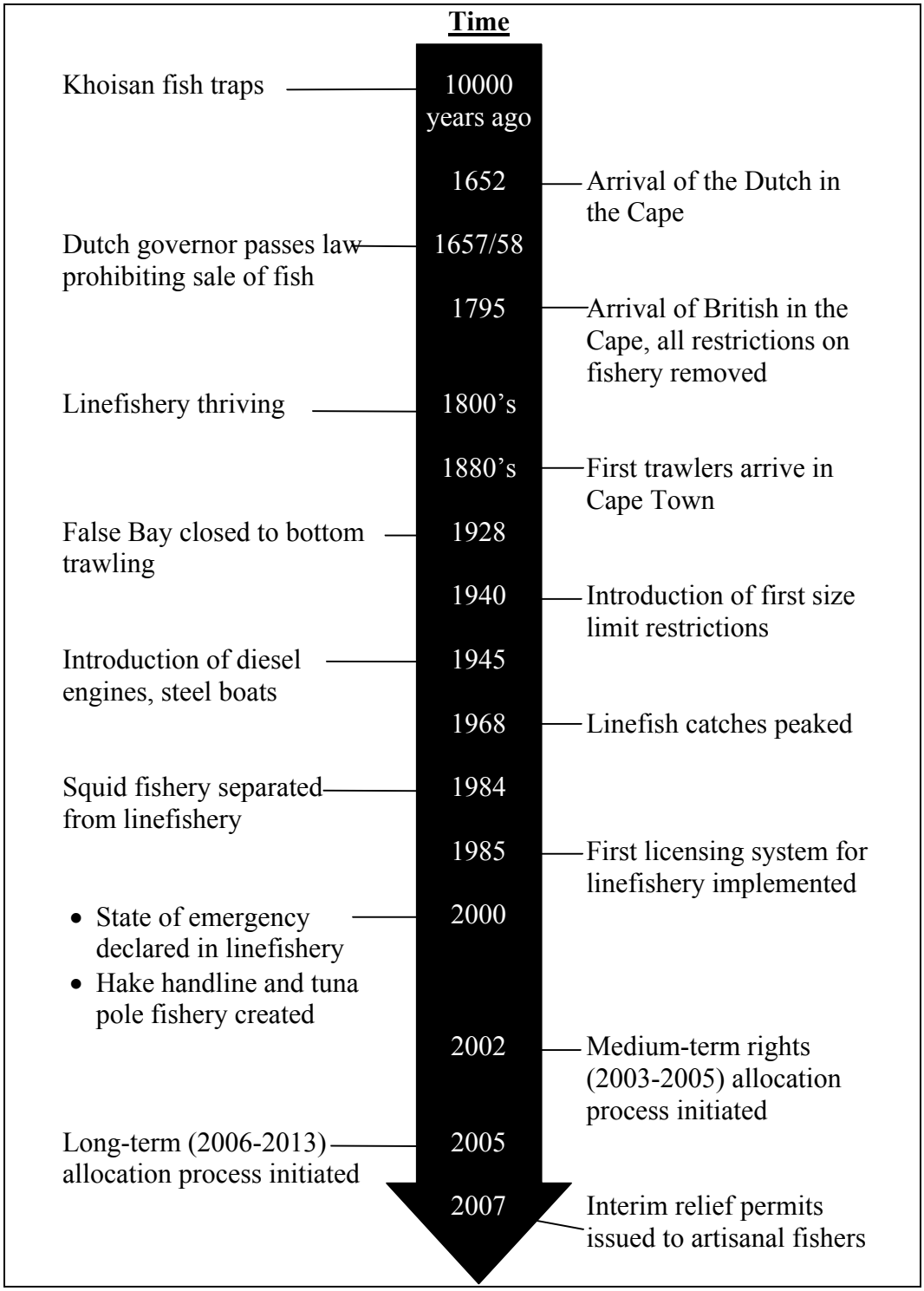

Figure 11: Timeline of South African linefishery (constructred from Branch & Clark 2006, Gates 2001, Lees 1969, Griffiths *et al.* 1999)

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3.4 Current Linefishery Policy

Medium-term Policy

As a commercial fishery, the linefishery was included in the medium and long-term rights allocation process mandated by the MLRA. Owing to the large number of users, launch sites, species targeted and the large operational range, it was decided that the fishery should be managed on a Total Allowable Effort (TAE) basis rather than the TAC method used in most of South Africa's other commercial fisheries. Based on rough calculations by MCM scientists, the government decided that to enable recovery in the linefishery, they needed to reduce the amount of effort in the fishery by approximately 70%. Thus, when the medium-term rights application process began in 2002, the minister announced that only 450 boats and 3450 crew (whichever limit was reached first) would be given permits. This represented an approximately 70 % reduction in the number of permits which had been operating in the fishery under the previous A and B licensing scheme.

Although the policy still retained the 'full' and 'limited' commercial categories, in an effort to ensure that the traditional linefishery was reserved for small-scale operators the policy stipulated *inter alia* that only individuals could apply for a right; these individuals needed to own or have access to a suitable vessel; individuals could also only own one right and could not have rights in any other fishery[8]. The policy also included a number of balancing criteria such as HDI status, previous non-compliance, dependence on the linefish resource for income, as well as previous involvement and investment in the linefishery. Applicants were scored and subsequently ranked on the basis of these criteria and the highest scoring applicants were subsequently granted rights. However, due to an oversight in the policy, the majority of the applicants had applied for 'limited commercial' rights because of the lower application fees for this category. Subsequently, because the 'limited commercial' licenses only permitted a maximum crew of five, after the limit of 450 boats had been reached, only 2496 crew had been allocated. After pressure from the unallocated fishers the government accommodated a further 954 crew on 326 vessels, bringing the total TAE to 756 vessels and 3450 crew (MCM 2006).

[8] Exceptions were later made allowing traditional linefishers to also apply for WCRL and Hake handline rights in the Western Cape and netfish rights in KwaZulu Natal

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Long-term Policy

The long-term rights allocation process began during the last year of the medium-term rights (2005). It was intended to be a more comprehensive process with non-transferable rights being granted for a period of eight years instead of three, subsequently there were a number of changes being made to the policy. The new policy only recognised one commercial category and clearly stated that the TAE should be returned to 450 vessels during the new allocation process. Importantly the new policy divided the linefishery into three regional management zones, A, B & C (see Figure 12).

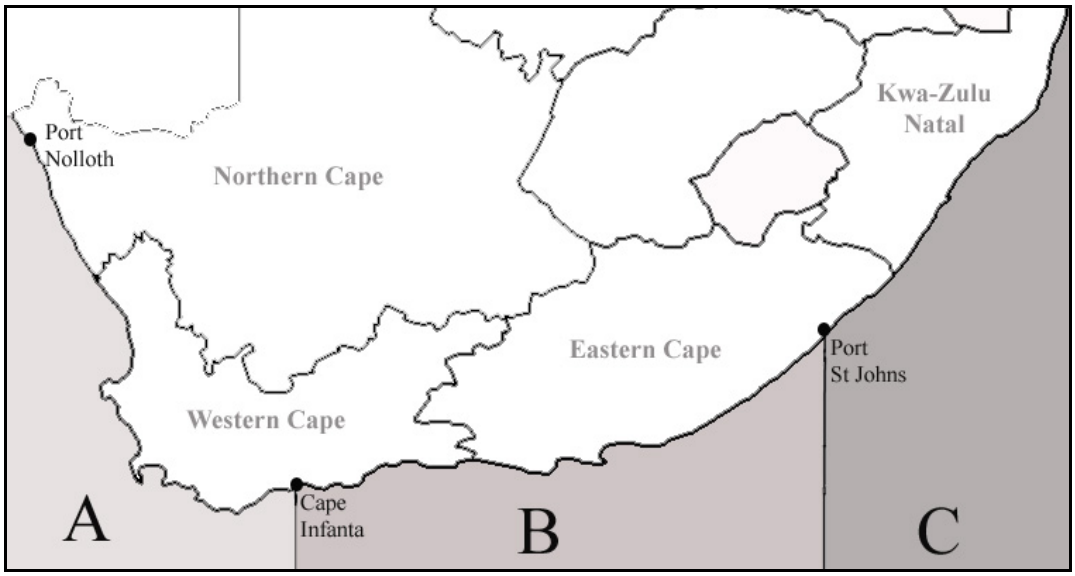

Figure 12: Regional management zones stipulated in long-term policy

The TAE was subsequently divided between these regions (see Table 1) with Zone A (which roughly corresponds to the Western Cape region) being given the largest share of the rights based on historical catch trends.

Table 1: Regional allocations of long-term rights (Source: MCM 2005)

Zone	Regional Management Area	Vessel effort
A	Port Nolloth to Cape Infanta	295
B	Cape Infanta to Port St. Johns	103
C	KwaZulu Natal	52

Under this new policy, fishers are restricted to these regional management areas and are not permitted to migrate between zones as they had done in the past. The intention behind this was to manage effort regionally so as to steer it towards the more resilient shoaling species generally found in the Western Cape and away from the more sensitive reef-dwelling species found along the Southern and Eastern coasts of the country.

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The stated policy goals/objectives of long-term linefish policy included in the final document were to:

1. Promote the participation of black traditional line fishers;
2. Allocate commercial rights to traditional line fishers reliant on traditional line fishing for their main source of income;
3. Endeavour to allocate a fair proportion of rights to applicants based at fishing harbours that are historically associated with traditional line fish catches;
4. Promote adherence to fair labour practices;
5. Support the management of effort in order to facilitate the recovery of over-exploited and collapsed fish stocks;
6. Lay the foundations for the management of this fishery on a regional basis; and
7. Ensure substantially higher levels of compliance by fishers.

(MCM 2005)

The long-term policy retained the medium-term policy's restrictions aimed at keeping the linefishery open only to small-scale operators. In addition to the balancing criteria used previously, during the long-term allocation process further criteria covering gender, type of boat used[9] and the number of catch returns submitted by the applicant during the previous rights period were included.

Applications took place during 2005. After being scored and ranked, preliminary lists of successful applicants were published for comments from the public. On the basis of allegations made during this period, a number of the initially successful candidates were investigated by an independent auditing firm. After these investigations MCM awarded 352 rights after which a further 103 rights were granted to fishers on appeal bringing the total to 455 rights-holders in all three zones.

Interim Relief

In the Western Cape, in an effort to alleviate coastal poverty and improve racial transformation, MCM had encouraged subsistence/artisanal fishers from the coastal communities to apply for commercial rights in the inshore fisheries (abalone, WCRL and linefish). While few of these fishers had owned fishing rights in the past, many had been

[9] The older, more traditional deckboats, locally known as *chuckies,* were scored higher than ski-boats in attempt to ensure that the more traditional fishers were given precedence.

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actively involved in the fishing industry either as 'poachers'[10] or were employed as crew for existing linefishing boats or some of the bigger fishing companies such as I & J and Sea Harvest and thus considered themselves *bona fide* fishers. After the conclusion of the long term rights allocations in 2005, although HDI's had increased their representation in terms of rights ownership from 26% prior to the medium-term allocations (Sauer *et al.* 2003b) to almost 40%, very few of the new entrants were successful with their applications (see Figure 13). One of the main reasons for this was that, due to the collapsed status of many of the linefish stocks, the linefishery policy was aimed at only giving rights to the traditional linefishers with a history in the fishery, most of whom would have held medium-term rights.

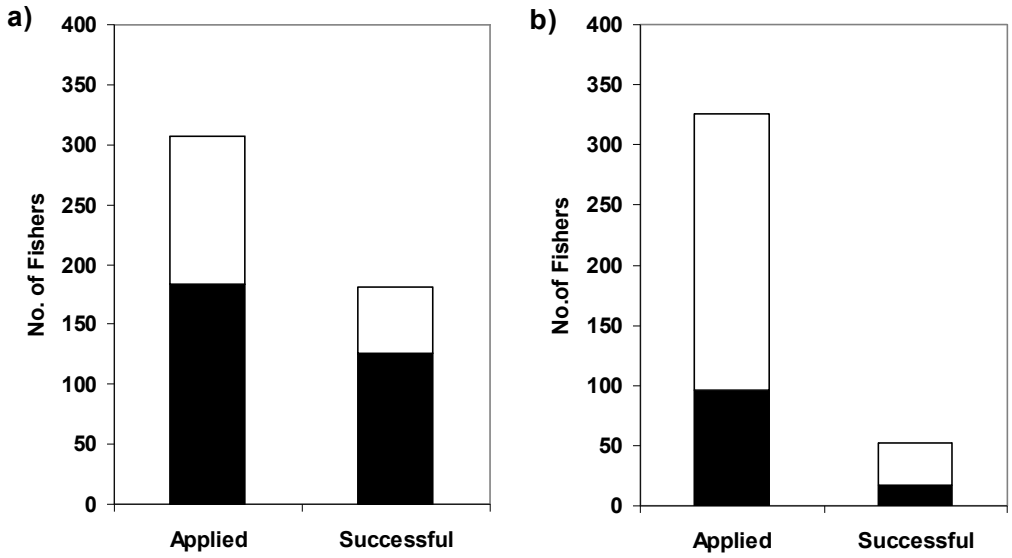

Figure 13: Breakdown of successful long-term rights applications in Zone A. Applicants are divided into a) Medium-term rights-holders and b) New Entrants. Each group is divided into HDI's (open bars) and non-HDI's (closed bars). Note that this figure does not include the applicants who were successful upon appeal as this data is unavailable

Many of the artisanal fishers applications' had also been hampered by the fact that they did not meet the criteria laid out in the policy in that they did not possess the necessary boats or start-up capital while others lacked the funds to apply and the literacy skills to fill out the very complicated application forms. This is evident from the greater success rate of white applicants (51%) compared to HDI applicants (25%). MCM was also wary of giving out 'paper quotas' to fishers who were likely to sell them on to bigger companies instead of utilising them themselves, which had been an issue in the medium-term rights process.

[10] MCM refers to fishermen who harvest/sell marine resources illegally as poachers. Some of the artisanal fishers purposely refer to themselves as poachers in an attempt to highlight the fact that the government's failure to recognise their legitimate rights to the marine resources has made them into criminals in the eyes of the public.

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Thus even though there had been a significant reduction in linefishing rights, MCM claimed that they had struggled to find 450 suitable applicants to give linefishing permits to.

With the help of a local NGO working with small-scale fishing communities, this group of unsuccessful artisanal fishers appealed to the government claiming that as *bona fide* traditional fishers they had been overlooked during the rights allocation process (see Appendix D2). They argued that as small-scale fishers their livelihoods and food security were completely reliant on the resource and that by granting the majority of fishing rights to commercial businesses the government was not living up to its election promises of redistribution.

The minister of DEAT responded by announcing that a new small-scale commercial sector would be created in order to accommodate *bona fide* traditional fishers who had been excluded during the long-term rights allocations. This came as a welcome relief to many of the coastal communities, many of whom argued that they did not like the ITQ-type systems used to manage the commercial fisheries, claiming that they had caused major divisions within these communities. Many of these communities, represented by a local NGO, argued that the inshore resources would be better managed using a CBNRM system of TURFs.

However, when these draft policies were published in late 2006, they were found to be wholly unacceptable to the fishers (Masifundise 2007). One of the main reasons for this being that, because all of the TAC for commercially valuable species such as WCRL and linefish had been allocated under the long-term allocations, the new draft policy only gave fishers the right to harvest low-value species, many of which did not even occur in the areas in which they lived. As a result of these objections, these fishers lodged a court application against MCM and were vindicated when the court found in their favour, ordering MCM to rewrite the policies in consultation with the affected fishing communities.

During the interim between the court ruling and the creation of a new small-scale commercial policy, MCM agreed to give out approximately 1000 ‘interim relief’ (IR) permits to *bona fide* fishers who had been unsuccessful in the long-term rights applications and who had no other source of income. Each permit entitled the holder to catch and sell

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four WCRL every weekday and a combination of up to thirty non-threatened linefish species (snoek, yellowtail, hottentot (*Pachymetopon blochii*) and carpenter (*Argyrozona argyrozona*)). In a somewhat controversial move, MCM gave the responsibility for identifying the deserving fishers to the NGO that had been representing these small-scale fishers. The IR permits came into effect in May 2007 and were meant to expire at the end May of 2008.

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Chapter 4: Diagnosis of South Africa's Traditional Linefishery

4.1 Economic Sustainability

Non-viable permits

One of the main causes of the current high levels of conflict amongst the stakeholders is that the linefishery is in a severe economic crisis and cannot sustain even the recognised rights-holders. Many of the existing rights-holders claim that because of the depleted status of many of the stocks, the traditional linefishery is no longer commercially viable. An analysis of the recent NMLS[11] catch trends in Zone A (Port Nolloth to Cape Infanta) indicates that, apart from 2004, the stock situation has continued to deteriorate since the state of emergency was declared in 2000 (see Figure 14).

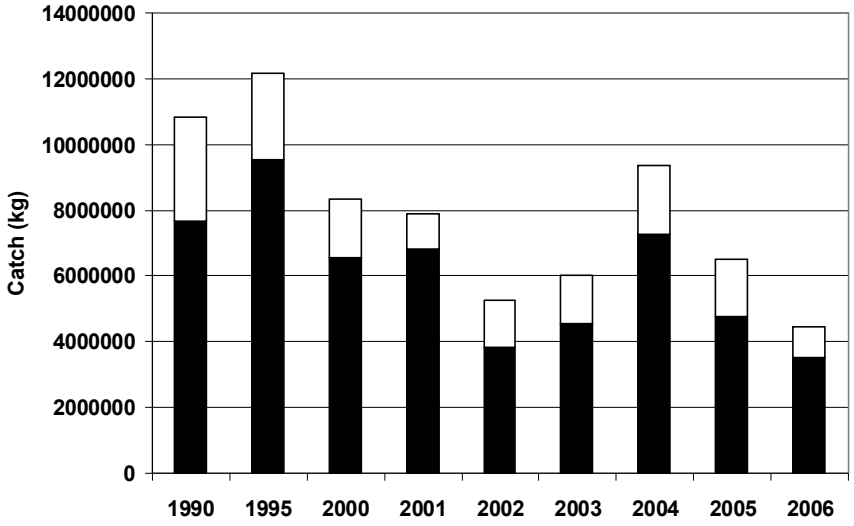

Figure 14: Linefish catches for Zone A (Port Nolloth to Cape Infanta) for selected years. The data are separated into snoek (closed bars) and other species (open bars). These figures exclude linefish species such as Hake, Sharks, Squid and Tuna which are mainly caught by other fisheries (constructed with data from NMLS 2006).

While snoek remain the dominant species, the total linefishery catch has declined consistently over the last three years. Although the data for 2007 was not available at the time of writing, newspaper clippings (see Appendix D3) and discussions with fishers indicated that it had been one of the worst years for a long time and the first few months of 2008 appear to have been no better. A brief analysis of one of the longstanding rights-holder's annual financial statements (see Figure 15) displays a similar trend with revenues steadily decreasing from 2005 onwards. It is also interesting to note that although turnover

[11] Despite the known under-reporting in the NMLS (see next section), it is felt that although the total figures reported may not be trustworthy, if fishers are consistently under-reporting then at least the trends in terms of species composition and catch relative to previous years should still be reliable.

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for the boat regularly exceeded R500 000, after wages, fuel, bait, maintenance and other costs had been subtracted, the net monthly income of this fisher was never more than R13 000 and for 2005-2006 was as low as R 666. Considering that this particular fisher had been in the linefishery for over two decades and must therefore be considered an experienced fisher, these figures suggest that the traditional linefishery is in fact a marginal industry and is not the 'pot-of-gold' that many of the artisanal fishers think it is.

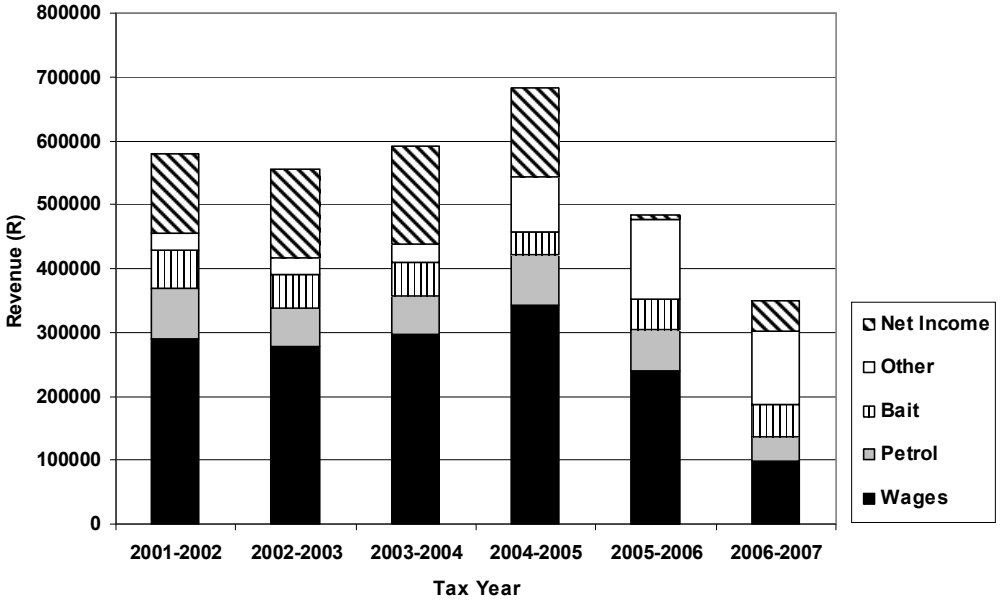

Figure 15: Economic breakdown of an individual linefisher's revenues

The fishers' claims of economic hardship are further strengthened by the fact that since the long-term rights allocations in 2005, fewer and fewer successful applicants have been activating their rights (see Table 2). Discussions with fishers suggest that even fewer fishers have activated their rights in 2008, with one fisher even going so far as to claim that unless there was a good run of fish within the next three months, up to 60% of the rights-holders in the Western Cape were likely to drop out of the fishery altogether.

Table 2: Breakdown of long-term rights allocated and activated in the traditional linefishery. (Source: MCM 2007a)

Management Zones	Effort Recommended	Long-term rights awarded	Active rights holders 2006	Active rights holders 2007
Port Nolloth to Cape Infanta	295	304	258	231
Cape Infanta to Port St. Johns	103	102	80	87
KwaZulu Natal	52	49	47	35
Totals	450	455	385 (84.6%)	353 (77.6%)

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Although local fisheries scientists point out that many of the linefish species, particularly snoek, have always had cyclical good and bad years, in the past, many of the fishers would have had access to other inshore resources such as squid, WCRL, hake and tuna in times when the linefish catches were low. However, in an attempt to reduce the cross-subsidisation of effort in the linefishery, this was specifically prohibited in the long-term rights policy

Marketing Issues

Another aspect that was repeatedly mentioned in discussions was the lack of a formalised market for linefish. At present, although some fishers have organised contracts with fish shops or processing plants, the majority are reliant on selling their daily catch to independent buyers known locally as *Langaaners.* These buyers wait at the harbour for the boats to return and subsequently bid against each other for each boat's catch. They then take the fish and resell it locally at greatly increased prices. Many of the fishers claim that these 'middlemen' often collude amongst themselves, enabling them to but the fish at prices well below the going market rate[12]. The lack of alternative market arrangements and fact that fishers are tired after a long day of fishing, and thus reluctant to engage in further marketing of their own fish, means that fishers grudgingly sell at these sub-market rates, forcing them to fish harder than they would like to. Unfortunately, because of past failures of co-operative fishing organisations and the individualistic nature of the linefishery, fishermen are reluctant/unable to develop a more equitable system.

Job Security & Pensions

Despite its stated goals of "promoting adherence to fair labour practices" (MCM 2005), the long-term policy has done little to improve the insecure labour relations present within the fishery. MCM's failure to implement a crew register[13] aimed at tying crew members to the fishery has resulted in a continuation of the insecure labour relations within the fishery and ongoing disputes between rights-holders and crew, many of whom now identify themselves as artisanal fishers. Some rights-holders feel that had the crew register been in place, many of the subsequent disputes involving artisanal fishers would not have occurred as it would have been easy to identify which fishers were already employed in the linefishery (see Section 4.3)

[12] Fish prices vary greatly from day to day, depending on the availability of fish and the time of the year. On days when the snoek are running larger boats may bring in up to 2000 fish but the prices on these days can drop as low as R3/fish.

[13] The crew register was proposed in the long-term policy as a means of identifying legitimate crewmembers in the linefishery: this in turn would improve crew members' job security and ensure fairer labour practices.

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Many of the rights-holders are also concerned that the current non-transferability of their fishing rights has decreased the economic value of both their rights and their boats. Few of these fishers have formalised pension plans and were planning on retiring on the funds raised by selling their boats on at the end of their linefishing careers. The non-transferability of their rights coupled with the poor economic returns of the current linefishery suggests that these fishers will be unable to realise the full value of their investments in their vessels if they did want to exit the fishery.

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4.2 Ecological Sustainability

The long-term policy states one of its objectives as being to "support the management of effort in order to facilitate the recovery of over-exploited and collapsed fish stocks" (MCM 2005). Achieving this goal relies primarily on having enough data to be able to quantify the biological status of the stock and, secondly, the actual management of effort.

Data concerns:

One of the major concerns highlighted by both managers and fishers alike is the lack of reliable data for the linefishery. Without a basic understanding of the amount of stock available to fishers annually, effective management of the fishery is all but impossible. At present the most reliable population estimates for most species still come from Griffiths' evaluation of the linefishery in 2000. Although there is a national monitoring system, the National Marine Linefish System (NMLS), which collects data from fishers in the form of their monthly catch returns, most fishers readily admit that they do not submit accurate information for fear of paying tax on their revenues, resulting in significant under-reporting in the NMLS (Sauer *et al.* 1997).

Another concern is the lack of understanding of the specific life history characteristics of the species targeted by the traditional linefishery. Griffiths' (2000) evaluation suggested that populations of 74 (*Polysteganus undulosus*) and geelbek (*Atractoscion aequidens*), both coastal migrant species, had collapsed. However, while the 74 has shown no signs of recovery, fishers claim that in 2004 they caught more geelbek than they had ever caught in the past, bringing into question the reliability of the original assessment. A similar situation has occurred with snoek; after the initial state of emergency was declared many fishers argued that, because snoek stocks did not appear to be depleted, a separate snoek fishery should have been created (see Appendix D4). However, although snoek still dominate the catch, they have subsequently declined significantly since 2000 prompting many of these same fishers to complain about being limited to only catching linefish (see Appendix D3).

A number of fishers also claim that many of the current minimum size limits for certain species are not realistic and are impractical. For example, these fishers argue that the minimum size regulation of 50cm for kob (*Argyrosomus spp*) is too high and that most of the kob caught in the past have been smaller than this. Further complicating this is the fact that many demersal species, such as kob, suffer from barotrauma when brought up from

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depth and death is subsequently unavoidable. Throwing these dead fish back into the ocean in the name of conservation, as the regulations require, makes little sense to these fishers. The fishers are further angered by the fact that undersize fish caught by the trawl industry are permitted to be landed and sold under the 'unavoidable bycatch' category.

Impractical regulations and unexpected stock resurgences and declines such as the snoek and the geelbek's indicate that knowledge of these species life history characteristics is incomplete. More importantly, they reduce the legitimacy of fishing regulations, which encourages non-compliance and further exacerbates the already strained relationship between the fishers and scientists. In many cases around the world fisheries development has outpaced the knowledge generated about the fisheries themselves: this is certainly true of the linefishery. Unfortunately, the small-scale nature of the linefishery means that, despite its depleted status, it has not been prioritised in terms of research funding and the resultant management has mostly been conducted on an *ad hoc* basis. Indicative of this is the fact that after the resignation in 2002 of the previous scientist responsible for the linefishery, the post was vacant for approximately five years until it was filled towards the end of 2007. In a more positive move, MCM has recently begun implementing a linefishery observer program with observers employed at the main linefishing harbours to monitor catches and effort levels. Although it is not yet fully functional, ultimately this program is hopes to provide a more accurate picture of the current situation in the linefishery.

Excessive Effort:

One of the main objectives of the new rights allocations was to reduce the amount of effort in the commercial fishery such that only the true linefishers who made their living off the linefishery would be allowed to continue fishing. Previous investigations had found that the cause of excessive effort in the linefishery was that many of the fishers in the linefishery were also involved in other fishing sectors (eg squid, tuna) or were recreational 'weekenders' with other sources of employment. This meant there was a lot of latent effort in the fishery which would only become active during times when there was a run of fish on.

Based on Griffiths' (2000) findings, it was suggested that an effort reduction of 70% was needed in order to facilitate stock recovery in the linefishery. MCM had hoped that by reducing the number of boats in the fishery by approximately 70% they would in effect

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reduce the amount of effort by a similar figure. However, at the time MCM was already aware that because of 'weekenders' and multi-sector fishers, effort was not distributed evenly throughout the fishery i.e. some boats were catching more than others. Officials at MCM estimate that prior to the first rights allocations almost 80% of the linefish catch was brought in by 20% of the boats. Thus the likely result of the long-term allocations is that effort has only been reduced by approximately 20% (MCM 2007a).

The problem is further compounded by the fact that upon winning through in the initial rights allocations, many of the fishers upgraded their boats in expectation of bigger catches amongst the reduced number of fishers. By extending their boat's length, fishers are able to: fish in rougher sea conditions, carry more fish in their hold and fish for more hours every day. Thus although the number of boats in the fishery may be declining, it is not unlikely that the amount of the effort may actually be increasing.

It is also well known that the linefishery is heavily impacted by most other sectors of South Africa's fisheries (see Figure 16), particularly the trawl fishery. Griffiths (2002) estimated that as much as 60% of the annual snoek catch is caught by trawlers as permitted bycatch[14], although he also acknowledges that under-reporting in the commercial linefishery may have skewed this figure. Many of the linefishers argue that while there have been serious attempts to reduce effort the linefishery since the state of emergency was declared, the trawl sector has generally been allowed to continue with 'business-as-usual'. Although managers at MCM argue that trawlers are not able to target many of the more sensitive reef-dwelling linefish species, the impact of trawling on economically important species such as snoek and kob remains a contentious issue amongst linefishermen.

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[14] Under the current regulations bycatch is allowed to constitute up to 10% of a trawler's total catch.

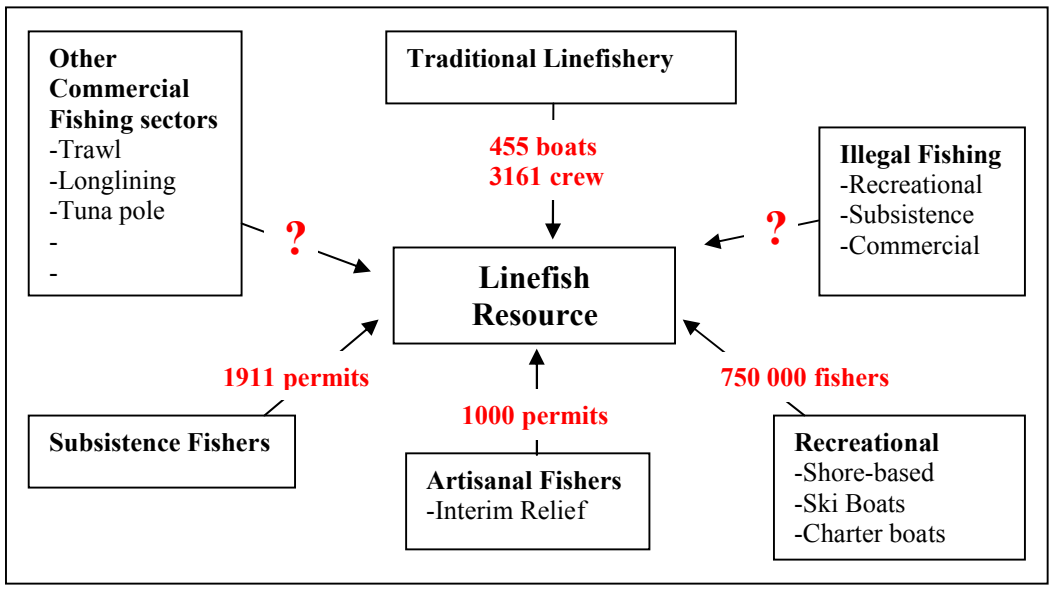

Figure 16: Sources and quantities of potential effort on the linefish resource

The granting of IR permits to artisanal fishers is another issue which needs to be addressed. In issuing IR permits with access to linefish and WCRL, MCM has effectively increased the amount of effort in the linefishery by over 1000 fishers, which well exceeds the TAE limit of 3450 fishers set in the long-term policy. By increasing the amount of effort in the fishery without any consideration for the TAE limits, MCM is not only putting further pressure on the depleted resources but it is also compromising the rights of the current rights-holders and is liable for prosecution. Litigation in this respect has already begun over the same issue in the WCRL sector.

Of further concern is the number of recreational and shore-based subsistence anglers who also have access to the linefish resources. At present MCM has granted 1911 subsistence linefish[15] exemption permits to fishers in the Eastern Cape (FEIKE 2008). There are also an estimated 750 000 recreational fishers in South Africa (Branch & Clark 2006) of which approximately 8000 owned boats at the time of the last study on recreational fishers in 1997 (McGrath *et al.* 1997). Like subsistence fishers, recreational fishers are permitted to catch but not to sell up to ten fish a day, depending on species bag limits. However, it is widely acknowledged that many recreational fishers, particularly charter boats who currently operate off these licenses, do actually sell their catches.

[15] These permits allow fishers to catch and sell up to 10 fish per day, depending on the species. This is almost exclusively shore-based as few of these fishers have access to boats.

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Non-retained species

The multi-species nature of the linefishery means that very few species are not retained. Permit conditions allow linefishers to catch most linefish except for approximately forty prohibited species including a number of sharks, billfish and slow breeding or threatened linefish, many of which do not occur in the traditional linefishing waters. Unlike the trawl or longline fisheries, linefishing is relatively selective and bycatch of non-target species such as turtles and marine mammals is uncommon. However, while it is possible to selectively target linefish, it is more difficult to target specific linefish species. However, almost all scientists and fishers interviewed agreed, that with the introduction of fishfinders, most experienced fishermen will be able to identify which species they are likely to be targeting. While this may help to prevent bycatch of prohibited species it doesn't prevent undersize individuals from being caught, many of which will have died during the process of being caught as a result of barotrauma.

One potential threat that might need to be addressed is illegal catches. If linefish catches continue to decline, linefishers may be tempted to poach other valuable species such as WCRL and abalone. This threat was recently brought to light in a case involving a linefisher who was caught with a large haul of WCRL on board (see Appendix D5). Although they do not condone his actions, some of the other linefishers commiserated with the captain saying that he had been forced into poaching because of the poor state of the linefishery.

General ecosystem

As mentioned earlier, linefishing is relatively target specific, which makes it less of a concern for issues such as ghost[16] fishing, discarding and damage to benthic biota. However, very little is known about the life history characteristics of many of the linefish species and thus the ecosystem impacts of removing these fish from their marine ecosystems. Most linefish are apex predators and thus will have significant top-down effects on both prey and consequently zooplankton populations. snoek, the most economically important linefish species is known to be a major predator of anchovy (*Engraulis japonicus*) and sardine (*Sardinops sagax*) (Griffiths 2002), both of which play an integral role in ecosystem functioning within the Southern Benguela ecosystem.

[16] Ghost fishing is the term used for lost or abandoned gear that continues to catch fish

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4.3 Political and Institutional Sustainability

Rights Allocations Conflicts

> "*a fisherman will jump into bed with the devil if he thinks there's something in it for him*"
>
> (quote from one of the fishers)

In line with the overall goal of transformation, one of the long-term policy's stated goals was to "promote the participation of black traditional line fishers" (MCM 2005). However, unlike the larger commercial fisheries, the linefishery has historically been fairly well racially integrated (Gates 2001) and few of the fishers consider race to be as important an issue as the 'authenticity' of the fishers. The political issue of who is in fact a *bona fide* fisher is one that comes up again and again in discussions with all of the fishers.

MCM's decision to accede to the artisanal fishing group's requests by granting them Interim Relief (IR) permits has caused serious divisions within the linefishery. Many of the current rights-holders recognise the claims of artisanal fishers to the linefish resource from the more rural communities which occur in regions where few commercial linefishers operate, pointing out that these communities have always been dependent on linefishing for their livelihoods and that the nature and scale of these fishing operations meant they were unlikely to have any significant impact on the linefish resource (see Figure 10). However, the rights-holders are opposed to the claims of the more urbanised artisanal fishers, particularly those claiming to have historically fished in the same areas in which many of the current rights-holders fish. Many of the rights-holders and most of the natural scientists interviewed believe that most of these urban artisanal fishers are not independent fishers but are either already employed as crew in the linefishery or are non-fishers hoping to cash in on potential financial gains.

Granting IR permits to these urban artisanal fishers has greatly angered the current rights-holders as not only do the IR permits compromise their rights in the fishery but in many cases these permits have been given to crew members of existing rights-holders which was not what they were intended for. These right-holders now claim that it is difficult for them to find enough crew to go to sea as crew members prefer to fish their own IR rights. They argue that the process of giving out the IR permits has been shambolic, with some fishing communities being excluded from the process while other non-fishing communities have

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received rights. Worryingly, the IR process has also enabled some fishers who were purposely excluded during the long-term rights allocations because of prior non-compliance offences, to get back into the linefishery without having to undergo the rigorous application process that current rights-holders went through.

Unfortunately it seems as if the artisanal group of fishers has become a catchall for all fishers who were unsuccessful in their long-term rights applications. While many of these fishers have valid claims to being independent *bona fide* fishers, a number of them do not. Differentiating between these 'free-riders' and fishers with valid claims to the inshore resources has become increasingly difficult as was shown during the Interim Relief (IR) process. At present this group of artisanal fishers are currently in discussions with MCM in an attempt to draw up a new small-scale commercial policy based on TURFs. However, despite the fact that this new sector is hoping to target both linefish and WCRL, up to this point, negotiations between these fishers and MCM have largely excluded the existing rights-holders in both of these fisheries.

Community infighting

Two of the long-term policy's goals were to "allocate commercial rights to traditional line fishers reliant on traditional line fishing for their main source of income" and to "allocate a fair proportion of rights to applicants based at fishing harbours that are historically associated with traditional line fish catches (MCM 2005). However, the drastic reduction in the number of rights available meant that no matter how they were allocated, many 'traditional' fishers who had previously been involved in the fishery were likely to be excluded. These exclusions have led to disagreements within the linefishing community as to what the exact definition of 'traditional' is.

Owners of the more traditional *chuckies* feel that as the oldest boats in the fishery they should have been prioritised before the more modern ski-boats. Within the ski-boat community there is also conflict between fishers who consider themselves completely dependant on the linefishery as opposed to the 'weekenders' who only take their boats out at times when the fish are running. Although, there is an association (the South African Commercial Linefishers Association) which represents most of the ski-boat rights-holders, infighting within the larger linefishing community has prevented the existing rights-holders from presenting a united front with which MCM can negotiate.

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Co-management & Compliance

The small-scale nature of the linefishery means that centralised monitoring, assessment and control remain unrealistic management propositions. As Orensanz *et al* (2005) note, effective sustainability within this sector is only likely to succeed by providing stakeholders with the right incentives to participate in all stages of management. Thus the final goal of the long-term policy of "ensuring substantially higher levels of compliance by fishers" (MCM 2005) requires MCM to invest in far greater participatory/co-management efforts. At present effective co-management in South African fisheries has been limited to the larger commercial fisheries, in which groups of stakeholder representatives known as Resource Management Working Groups are responsible for developing Operational Management Procedures (OMPs) for each fishery. Despite repeatedly recognising the need to engage in co-management of the inshore marine resources with local fishing communities, MCM has struggled to devolve decision-making powers and management responsibilities to local actors within the small-scale fisheries (Hauck & Sowman 2001).

In discussions with many of the natural scientists (both state-employed and private) it emerged that despite the growing trend towards co-management in global fisheries, few scientists believed that the devolution of responsibility for resource management would enhance sustainability in the small-scale sector. Many of them were sceptical of the institutional capacity present within small-scale fishing communities, arguing that high population densities and poverty levels in many of the coastal communities result in too much pressure being exerted on local management institutions to overexploit the resources. Many also believe that in the wake of Apartheid, the fragmented coastal communities are a far cry from the functional communities romanticised in much of the CBNRM rhetoric.

While all of the rights-holders consulted agreed that MCM had failed to communicate with them and incorporate their views into the current management structures, there was a common consensus amongst rights-holders that the linefishing community was too fragmented for management decisions to be devolved to the level of community. Most of these fishers indicated that they preferred an individual licensing system in which limits were set and enforced by the state. However, this view is contrary to many in the group of artisanal fishers who argued passionately for the merits of a community-based TURFs system[17] as proposed by Wingard (2000).

[17] A community-based TURFs system may still be put into practice in the small-scale commercial policy which is currently being developed

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Connected to this is the issue of stock assessment. When questioned most of the rights-holders tended to trust MCM's scientific assessments of the stock situation. However, many of the artisanal fishers interviewed stated that they did not believe the stock figures given by MCM. Citing examples of resurgences in supposedly collapsed or declining stocks, many of these fishers argued that had MCM incorporated their (the fishers) traditional ecological knowledge (TEK) into their stock assessments they would have been able to produce a more accurate picture of *de facto* stock abundances.

Capacity

The issue of MCM's current capacity to administer and manage the fishery was a recurrent theme amongst many stakeholders. Almost without exception, all stakeholders involved indicated that they felt that MCM did not have adequate capacity to manage the linefishery effectively. One of the most common complaints from fishers was that MCM managers had very little understanding of how the fishery functioned on a day-to-day basis. Some of the fishers interviewed even went so far as to doubt whether the MCM official responsible for the overall management of the linefishery would be able to visibly identify the main species targeted by the fishery. Regardless of the validity of this opinion, these types of comments suggest that the fishers have very little trust in MCM's ability to administer the fishery properly.

All of the fishers talked of being frustrated in their attempts to communicate with MCM, an opinion which can be corroborated by my own experiences. Phones remain unanswered, emails unreturned and meetings are cancelled without warning. Fishers are frustrated by this lack of transparency and the inability of MCM to communicate effectively with the relevant stakeholders in the fishery. Worryingly, there also appear to be significant communication problems between the different directorates within MCM. During the course of interviews with officials from the research and resource management directorates, it became apparent that there was little to no consultation taking place between these directorates. While officials from the research directorate repeatedly voiced their concerns about the excessive amounts of effort active in the fishery, a senior official from the resource management directorate preferred to argue that MCM had an obligation to first ensure that "social justice was done" in terms of granting people access to the resources. Such radically different opinions about management objectives within the organisation are unlikely to lead to sustainable long-term outcomes.

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Most MCM officials admit that they are understaffed and underfunded[18] and that morale within the institution is very low. One of the Fisheries Control Officers (FCO's) interviewed noted that between two officers, they were expected to monitor a stretch of coastline over 120km long while another complained that he had had to wait 3-4 months for his cellphone allowance and overtime to be paid. Working under these circumstances is no doubt difficult[19] and as a result there is a high turnover of employees, which has been identified in DEAT elsewhere in South Africa (Anthony 2006). Fishers, academics and even MCM officials cite the government's current BEE strategy as one of the major causes of the current lack of capacity. As noted by van Sittert *et al* (2006), the government's drive for racial transformation in MCM has not only resulted in the loss of a number of highly regarded marine scientists but has also seen the appointment of underqualified individuals to upper management positions. The high turnover rate of employees has also resulted in diminished ownership of management decisions as new officials are unwilling to take responsibility for decisions made prior to their arrival.

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[18] Although the director-general of MCM has recently claimed that MCM is underfunded, many critics argue that the lack of funds can be directly attributed to mismanagement of the now bankrupt Marine Resources Fund which is meant to fund all administration, research and management within MCM (FEIKE 2008).
[19] During the course of this study one of the officials involved in the linefishery management unavailable for an interview because he was currently recovering from a work-related nervous breakdown.

Chapter 5: Discussion

5.1 Future Policy Recommendations

Although the policy is still in its early days, under the current management regime, the linefishery is unlikely to recover in time to meet South Africa's international commitments by 2015. The findings of this study suggest that the long-term policy has failed to establish the secure property rights regime and an effective set of incentives prescribed in the EAF. The future of the linefish resource and the livelihoods of the fishers who currently harvest it, depends upon MCM's ability to reduce the effort in the fishery to sustainable ecological levels without compromising the socioeconomic stability of the small-scale fishing community. While acknowledging that this is no easy task given the nature of the fishery and the multiple competing interests of those who seek to harvest it, the following recommendations are made:

Securing Property Rights

Co-management

Fundamental to successful co-management is a secure system of access rights to the resource which will in turn provide users with an incentive to manage the resource sustainably. At present, the ongoing disputes over the validity of the current rights allocations continue to encourage a 'race for fish' in which all fishers are trying to catch as much as they can, while they can, for fear that their rights may soon become valueless. In a small-scale fishery such as the linefishery, developing a secure set of property rights will require the participation and acceptance of all stakeholders if it is to succeed. Despite the failures of previous co-management attempts in both small-scale subsistence and commercial fisheries in South Africa (see Hauck & Sowman 2001), it is imperative that future policies incorporate far greater levels of stakeholder participation throughout all levels of management. Much of the current impasse in the linefishery can be attributed to a lack of communication amongst stakeholders and a subsequent misunderstanding of the fundamental limits to the amount of effort that this fishery can sustain. In line with this goal, the EAF emphasises the need for more of a diplomatic rather than dogmatic approach to fisheries management in which the stakeholders themselves make the rules by which they will be governed (FAO 2003).

As noted by Pomeroy and Berkes (1997) co-management is not a binary process and can occur across a continuum of different management approaches in which the degree of

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power sharing and management responsibilities will be influenced by a number of factors such as the capacity of local fishing communities and the nature of the resources being managed. In the linefishery, due to the current lack of cohesion amongst the different stakeholders and the precarious stock situation, it would be unwise to devolve too much responsibility to the fishers themselves. However, this should not preclude MCM taking positive steps towards establishing a linefishery co-management committee. Unfortunately, the present levels of conflict between the different stakeholders within this fishery present MCM with a singularly difficult task in setting up such a committee. The already difficult task of identifying the relevant stakeholders in this fishery is likely to be further exacerbated by the antiestablishmentarian and often confrontational nature of many of the fishers involved. Notwithstanding these difficulties an effective co-management committee should consist of representatives from at least the following groups:

- MCM (research, compliance and resource management directorates)
- Existing traditional linefish rights-holders
- Coastal communities (including subsistence and artisanal fishers)
- Other commercial fisheries (particularly the trawl industry)
- Recreational fishers
- Independent consultants and scientists

This committee should be tasked with identifying the deserving rights-holders within the fishery and subsequently defining an adaptive management plan consisting of a number of ecological, socioeconomic and institutional operational objectives for the fishery as suggested by the EAF. Ideally, each of these goals should be accompanied by relevant sustainability indicators including target and limit reference points with which to monitor progress towards these goals (see Figure 17). In this regard the Linefish Management Protocol developed by Griffiths *et al* (1999) could be seen as a useful starting point in terms of defining the ecological reference points. These agreed-upon objectives would then need to regularly monitored, assessed and reviewed in order to ensure that management strategies were adapted to the current conditions in the fishery.

Creating a secure and resilient small-scale fishing community in South Africa will also require greater efforts on behalf of the government to incorporate capacity building and empowerment programs into future rights allocation schemes (Hauck & Sowman 2001). It is crucial that MCM understands that giving a fisher access rights is not going to alleviate

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poverty nor transform the fishing industry unless they are accompanied by skills training and a comprehensive understanding of how to make a commercial success of it. The failure of many of the artisanal fishers to win rights in the long-term process can be directly attributed to their lack of equipment and business skills. In order for these fishers to compete with existing rights-holders in the current linefishery or with other artisanal fishers in the proposed small-scale commercial sector, it is imperative that they are provided with opportunities to develop their local capacity.

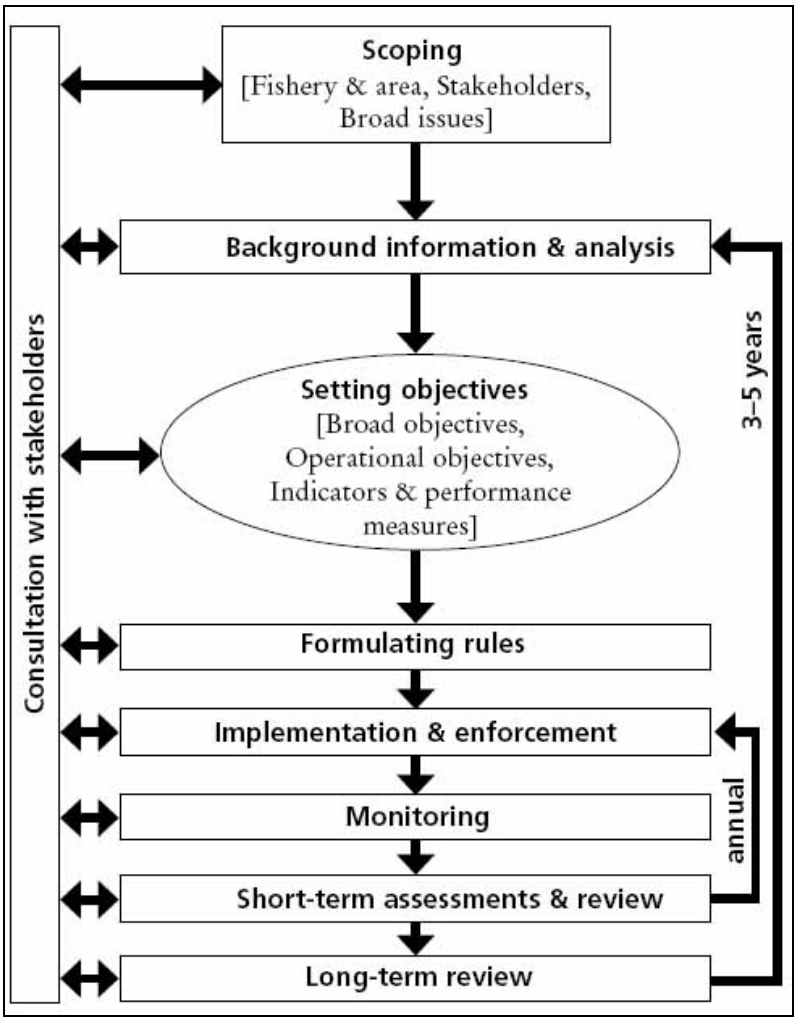

Figure 17: Outline of the process for developing and implementing an EAF management plan (source: FAO 2003)

Recognising the importance of social sustainability within the greater fishing community is vital to all future management attempts because, as Jentoft (2000) argues, "before one can hope to rebuild stocks, one must start to rebuild communities; one cannot succeed without the other". In line with this, MCM needs to give serious consideration to how future stock assessments and policy structures could incorporate the TEK present within these fishing communities. Despite the misgivings of MCM's scientists, utilising this TEK in fisheries

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management has been shown to have a number of positive benefits, not only in terms of better stock estimation but also in winning fishers trust and improving compliance (Neis & Felt 2000).

Data

Developing secure long-term property rights and regulations within the linefishery is heavily dependant upon understanding the baseline ecological and socioeconomic conditions which currently operate within the fishery. Up until now, almost all attempts to reduce the pressure on linefish stocks have been directed towards the traditional linefishery despite the widely acknowledged fact that it is not just the traditional linefishery which targets this resource. As indicated in the WWF's recent ecological risk assessments of South Africa's larger commercial fisheries, the linefish resource is impacted upon, both intentionally and unintentionally, by almost all of the other sectors in the fishing industry as well as the recreational and subsistence sectors (Nel *et al.* 2007). In line with the principles of the EAF it is critical that future management plans, including decisions on the number of rights-holders to allow in the fishery, take a holistic view of the linefish resource. This requires that an effective data collection system be initiated by MCM in conjunction with these fishing sectors in order to better understand the scale of these impacts. This data can then be used to develop effective regulations governing allowable linefish bycatch levels.

In the absence of reliable biological data on both the life history characteristics of the targeted species and the quantities of fish caught annually within the fishery, it is important that MCM applies the precautionary principle mandated both nationally by the MLRA and internationally in the WSSD's implementation plan. Although the observer-based system currently being implemented by MCM will go a long way towards providing better data for the fishery, it is also suggested that a system of sustainability indicators be implemented in the near future to assist managers in regularly evaluating the success of existing management strategies.

However, as Cochrane (2000) notes, the complexity and uncertainty of biological variables within a fishery are often only secondary contributors to failures in fisheries. Understanding the social and economic context within which the fishery operates is critical to designing an effective management system which is both socially acceptable and economically viable, since compliance will be always be difficult to achieve in a fishery

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which is not economically viable (Caddy 1999). At present, the number of rights-holders dropping out of the linefishery suggests that the number of rights (450) given out during the long-term rights allocation process was not economically viable. Future policy needs to incorporate a comprehensive understanding of the prevalent conditions within the linefish market with regards to price paid to fishers as well as the price paid by consumers. A similar understanding of the factors relating to fishers' operating costs and their variability is also necessary in order to set effective lower or upper limits to the amount of effort allowed in the fishery.

Creating Incentives

Increased public acceptability of the management regime within small-scale fisheries such as the traditional linefishery is critical to the success of any future management structures. The ease of access to the resource and the impossibility of effective monitoring along the entire coastline mean that unpopular regulations which negatively impact fisher's livelihoods are unlikely to be successful. As noted by Hauck and Sowman (2001), until users dependant on the resource are able to meet their basic needs, sustainable management of the resource will remain a secondary objective. To this end there is a great need for MCM to create alternative opportunities for fishers in the poorer coastal communities for as long as there are no acceptable alternative sources of livelihood available to fishers there will be extremely strong resistance to any policy changes that may result in some of them losing access (Cochrane 2000).

At present, despite repeated promises from the minister of DEAT to create opportunities for local communities to participate in the South Africa's growing aquaculture industry, very little progress has been made. In South Africa it must be considered that, because most commercially valuable stocks are already fully or overexploited (Branch & Clark 2006) the solutions to the excess dependency of fishers must lie mainly outside the realm of fisheries. With unofficial unemployment figures estimated at 40% and rising up to 60% in some of the coastal areas (Isaacs 2006), creating employment opportunities in South Africa remains a significant challenge for the present government. However, the favourable location of fishing communities along South Africa's coastline, which is becoming increasingly popular as an international tourist destination, suggests that there should be a number of alternative opportunities within this growing sector. Identifying these opportunities and equipping local communities with the necessary business skills to participate in the tourism industry should be prioritised by DEAT.

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Significant employment opportunities may also exist in developing local agencies to engage in the marketing of locally harvested resources such as linefish and WCRL. The current lack of an organised and regulated market for these products means that the majority of the revenues generated by these fisheries do not accrue to the fishers and their communities but are instead diverted to a smaller group of non-fishing 'middlemen'. The development of a co-operative marketing system owned and run by fishers and their communities could help to significantly improve the net profits received by the fishers without requiring an increase in fishing effort. The recent development of eco-labelling initiatives such as the MSC also indicates that there is a growing market, both locally and internationally for ethically caught seafood. If these marketing agencies could take advantage of the relatively low impact harvesting methods employed in these small-scale fisheries, they would be able to command premium prices for their products.

Strengthening Institutional Capacity

While it is crucial that environmental policy incorporates an understanding of the fundamental ecological and socioeconomic factors operating within the fishery, without a stable political environment and a strong institutional foundation it is unlikely that even the best policies will be successfully implemented. It is for this reason that the modern 'bible' for fisheries management, the FAO's Code of Conduct for Responsible Fisheries (1995) is aimed at promoting responsible fisheries rather than responsible fishers (Caddy 1999).

One of the greatest institutional challenges facing effective management is improving the levels of communication between the stakeholders. It is important that MCM recognises that an ongoing process of interaction between stakeholders promotes continuity and commitment which in turn allows exchange and reciprocity related to both threats and benefits, enabling decision making to move forward (Williamson 1985). From this investigation it seems that in the linefishery, MCM has preferred to play stakeholders off against each other rather than focussing on building local institutions amongst the fishers. Such divisive tactics and the overall lack of transparency from MCM have lead to widespread distrust of the institution by all fishers.

In building effective institutions, both users and managers need to share the same long-term vision for the fishery. Successful fishery management requires compliance from both the resource users and those excluded from use (Hanna 1999). Achieving this type of

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stakeholder buy-in requires that users are assured of a secure set of property rights. MCM's unwillingness to prioritise the current rights-holders, which it itself identified, has led to a situation where all users are currently attempting to maximise short-term benefits. As identified by Hanna (1999), successful fisheries management hinges on the ability of the management regime to establish compatible incentives between behaviour and outcomes that promote stewardship of the resource

Ultimately, although a successful co-management system will help to improve compliance, MCM must be willing to make and subsequently enforce a number of politically unpopular decisions in order to achieve the long-term goal of sustainability. In repeatedly exceeding the TAE limits set by its own scientists in both the medium and the long-term rights allocation process, MCM has shown a lack of political will and foresight and a concurrent failure to appreciate the fundamental concept of sustainable resource management. The unfortunate truth is that the political costs to a senior decision maker of attempting to resolve a fisheries management problem by excluding a large number of fishers from the fishery will often outweigh the political benefits of solving it (Cochrane 2000). However, if MCM is successful in establishing a functional co-management committee, the responsibility for such unpopular decisions will be shared by all stakeholders involved. Given the high levels of poverty and unemployment in many of the coastal communities it is easy to see why, in the past, MCM has been reluctant to enforce regulations that might lead to further deprivation, however, fisheries cannot be expected to fulfil the ever-increasing socioeconomic needs of humanity. Temporary and short-sighted solutions such as the Interim Relief program do not encourage long-term incentives for sustainable resource management and can often lead to increased expectations which the resource is unable to fulfil.

Addressing these issues will depend heavily upon whether MCM is able to rectify issues within its own institution. Despite a small group of committed individuals within the institution, MCM appears to be suffering from a serious lack of capacity. Employing enough passionate and, more importantly, qualified individuals will go a long way to creating an institution which is better able to grapple with the management challenges under the EAF. At the same time these changes will go a long way towards stemming the current high turnover of staff by establishing a better working environment with greatly improved morale.

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While this study has been critical of MCM, it must also acknowledge that failure to achieve sustainability in fisheries management should not always be attributed to fisheries managers. Many of the broader political, institutional and economic drivers lie outside the realm of fisheries themselves (Andrew *et al.* 2007, Cochrane 2000). Responsibility for tackling these larger problems, such as the high levels of poverty amongst coastal communities, lies not just with DEAT but with all state departments and as such requires a far more integrated approach than the one currently employed. Fishers too must take responsibility for their actions, realising that the fisheries resource is a national resource and as such no one is entitled to destroy it, regardless of their socio-economic status.

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5.2 The Linefishery and South Africa's Small-Scale Fisheries

"*Give a man a fish, feed him for a day. Teach a man to fish, feed him for a lifetime*"
(traditional proverb)

Alternative Property Rights Regimes

The ease of access to the inshore resources it targets and the relatively low levels of technology needed to harvest them suggest that the linefishery fits the description of small-scale fisheries. It is thus understandable that many of the artisanal and subsistence fishers are suggesting that it should be managed with more of a CBNRM approach using a TURFs system, some of which have shown significant promise in other countries small-scale fisheries such as the Chilean Loco and Argentinean sea urchin fisheries (Orensanz *et al.* 2005). However, despite the similarities of these fisheries and the potential benefits of a TURFs system of property rights, there are a number of biological and socioeconomic factors in the linefishery which suggest that it is unlikely that such systems will work in the current South African context.

Although a TURFs system would help to improve the economic viability of small-scale fishers by enabling them to target a broader range of organisms, it would once again create a situation in which linefishing effort would be subsidised, which was one of the contributing factors to the original collapse of the linefish stocks. The slow-breeding nature of many of the resident reef species suggests that they cannot sustain commercial fishing, while the non-sedentary nature of other linefish stocks, particularly economically important species such as snoek and yellowtail makes it difficult to see how a TURF system might work in this fishery.

Further, despite a few examples of successful community cooperation during the Interim Relief programme, it is questionable whether South Africa's coastal communities currently have sufficient capacity to make a CBNRM system work. The Apartheid regime's legacy of segregated and fragmented communities further complicates the already contested notion of whether homogenous communities capable of sustainably managing natural resources actually exist (Agrawal & Gibson 1999). As Cinner *et al* (2007) note, customary CBNRM models of resource management are less likely to succeed in communities which are heavily dependant on marine resources for their livelihoods, with high levels of

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population and modernisation and in close proximity to commercial markets. To a lesser or greater extent, all of these factors are present in South Africa's coastal communities today.

The Future of the Small-Scale Sector in South Africa

Much of the current conflict in South Africa's small-scale fisheries can be attributed to MCM's failure to incorporate the findings of the SFTG into their long-term policies. The failure of policy-makers to fully understand the nature of these fishers at the time of implementing the long-term policies has resulted in managers being forced to try to accommodate these fishers within the already fully subscribed inshore fisheries. Given the socioeconomic backgrounds of many of these fishers it is not surprising that few of them were successful during the medium and long term rights allocation processes. The subsequent conflict over these rights, both between and within the different groups of stakeholders has further polarised these groups at great costs to future co-management efforts and compliance within the small-scale sector[20].

Redistributing linefishing rights in a constitutionally fair way, whether it is within the existing traditional linefishery or in the proposed small-scale commercial fishery, will always be difficult. The traditional linefishery in the Western Cape has a long and rich history of fishers from many races and nationalities operating within it. Policies based on the 'traditionalness' of fishers are likely to continue to cause problems because the resource can no longer support 'traditional' levels of harvesting. Differentiating between levels of 'traditionalness' quickly becomes a difficult and complicated task; a fisher who has been totally dependant on the fishery for half a decade is still just as dependant on the resource as a fisher who has been dependant on the fishery for two decades.

As van Sittert *et al* (2006) note, balancing the tripod of equity, sustainability and economic stability will always remain a difficult task as the revolutionary pursuit of social equity is by its very nature strongly opposed by the conservative demands of stability and sustainability. The MLRA's recognition of the subsistence fishing sector has greatly increased expectations amongst many of the impoverished coastal communities in South Africa, not all of whom have traditionally been involved in fishing. As a result MCM has come under increasing pressure to alleviate coastal poverty by enabling the commercialisation of artisanal and subsistence fishers. However, given the

[20] For example, as a result of illegal poaching, the wild abalone fishery was closed indefinitely as of the 1st of February 2008

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limited/threatened nature of high-value inshore resources such as linefish and abalone, and the number of fishers wanting access to them, it is also important to realise that there is no possible allocation of rights that will please every stakeholder. As one of MCM's previous fisheries managers noted:

> "*I knew I was doing my job well when everyone was complaining equally loudly, it was only when someone congratulated me that I started to worry*"

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Appendix A: List of Organisations Consulted

- Artisanal Fishers Association (AFA)
- Anchor Environmental Consultants
- Coastal Links
- Environmental Evaluation Unit (EEU) at the University of Cape Town
- FEIKE Natural Resource Management Advisors
- Helderberg Artisanal Fishers
- Marine & Coastal Management (MCM)
- Masifundise Development Trust
- Oceanographic Research Institute (ORI)
- Programme for Land and Agrarian Studies (PLAAS) at the University of the Western Cape
- South African Commercial Linefishers Association (SACLA)
- South African Marine Linefish Management Association (SAMLMA)
- West Coast and Peninsula Commercial Ski Boat Association
- Western Cape Commercial Linefishers Association (WCCLA)

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Appendix B: Objectives and Principles of Marine Living Resources Act (MLRA)

a) The need to achieve optimum utilisation and ecologically sustainable development of marine living resources;
b) The need to conserve marine living resources for both present and future generations;
c) The need to apply precautionary approaches in respect of the management and development of marine living resources;
d) The need to utilise marine living resources to achieve economic growth, human resource development, capacity building within fisheries and mariculture branches, employment creation and a sound ecological balance consistent with the development objectives of the national government;
e) The need to protect the ecosystem as a whole, including species which are not targeted for exploitation;
f) The need to preserve marine biodiversity;
g) The need to minimise marine pollution;
h) The need to achieve to the extent practicable a broad and accountable participation in the decision-making processes provided for in this Act;
i) Any relevant obligation of the national government or the Republic in terms of any international agreement or applicable rule of international law; and
j) The need to restructure the fishing industry to address historical imbalances and to achieve equity within all branches of the fishing industry.

(Source: MCM 1998)

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Appendix C: Traditional Linefishery Species

SPECIES LIST					
COMMON NAME	**SCIENTIFIC NAME**	**MINIMUM SIZE/ MASS**	**BAG LIMITS**	**RANKING**	**STATUS**
Carpenter (silverfish)	*Argyrozona argyrozona*	35 cm	Unlimited	5	Under review
Catface (brown spotted) rockcod)	*Epinephelus andersoni*	50 cm	5		
Dageraad	*Chrysoblephus cristiceps*	40 cm	1		Collapsed
Elf (shad)	*Pomatomus saltatrix*	30 cm	Unlimited		Over exploited
Englishman	*Chrysoblephus anglicus*	40 cm	Unlimited		
Geelbek (Cape salmon)	*Atractoscion aequidens*	60 cm	Unlimited	3	Collapsed
Hake (stockfish)	*Merluccius capensis & M. paradoxus*		5		Optimally exploited
Hottentot	*Pachymetopon blochii*	22 cm	Unlimited	4	Under review
Kingklip	*Genypterus capensis*		1		
Kob	*Argyrosomus* spp.	50 cm	Unlimited, but may only land one kob > 110 cm per day	6	Collapsed
Pinky (piggy)	*Pomadasys olivaceum*	75 mm	1		
Poenskop (black steenbras or musselcracker)	*Cymatoceps nasutus*	50 cm	1		Collapsed
Red steenbras (copper steenbras)	*Petrus rupestris*	60 cm	1		Collapsed
Red stumpnose (Miss Lucy)	*Chrysoblephus gibbiceps*	30 cm	Unlimited		Collapsed
Roman	*Chrysoblephus laticeps*	30 cm	Unlimited		Collapsed
Santer (soldier)	*Cheimerius nufar*	30 cm	Unlimited		
Scotsman	*Polysteganus praeorbitalis*	40 cm	1		Collapsed
Slinger	*Chrysoblephus puniceus*	25 cm	Unlimited		
Snoek (Cape snoek)	*Thyrsites atun*	60 cm	Unlimited	1	Under review
Strepie (karanteen)	*Sarpa salpa*	15 cm	Unlimited		
Squid (Chokka)	*Loligo vulgaris reynaudii*		20		
Tunas (tunny)	*Thunnus* spp		10 in total for all *Thunnus* species		
Albacore	*Thunnus alalunga*				Optimally exploited
Bigeye tuna	*Thunnus obesus*	3.2 kg			
Bluefin tuna	*Thunnus thynnus*	6.4 kg			
Yellowfin tuna	*Thunnus albacares*	3.2 kg			Optimally exploited
White edged (Captain Fine) rockcod	*Epinephelus albomarginatus*	40 cm	Unlimited		
White stumpnose	*Rhabdosargus globicebs*	25 cm	Unlimited		Under review
Yellowbelly rockcod	*Epinephelus marginatus*	60 cm	1		Collapsed
Yellowtail	*Seriola lalandii*	None	Unlimited	2	Optimally exploited

(Source: MCM 2007b, Sauer *et al.* 2003b)

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Appendix D: Newspaper Clippings

Appendix D1

The rich are being favoured, Kalk Bay meeting told

FISHING COMMUNITIES in the Western Cape are demanding that the government give equal rights of access to marine and inland fisheries resources, and give priority rights to small-scale fishermen who depend on fishing for their livelihood.

Fishermen who held an angry mass meeting in Kalk Bay yesterday slammed the new quota system as a tool to create a huge gap between rich fishing companies and the traditional fishermen.

The quotas, aimed at proper utilisation of resources and resource

SIPOKAZI MAPOSA
Staff Reporter

fishing rights. Many traditional fishermen's applications were unsuccessful.

Fishermen said the new system was tailormade for big businesses to reap big profits at the expense of the small-fishermen.

Andy Johnston of Artisanal Fishers Association said the bureaucracy involved in the quota system made it hard for poor fishermen to benefit from fishing. The industry had become an

for small fishermen.

"There are too many requirements that make it impossible for small fishermen to be part of the system. It has also outlawed certain aspects, such as selling fish to communities and requires ordinary fishermen to sell their products to businesses," he said.

"The government is excluding experienced fishermen from the system, and is involving certain individuals and businesses who don't have any fishing experience, people whose only aim is financial gain and not

more poor. There is a lot of human rights abuse and exploitation among poverty-stricken communities, and only educated and so-called clever people are involved in decision-making, and not poor communities."

Thandekile Mbunge of Masifundise Development Organisation, who works with rural and coastal communities, echoed Johnston's sentiments.

"The government needs to address the existing system of unequal ownership access to marine resources as a matter of urgency. Most of

Phakamani Buthelezi, chief director of resource management in the department of environmental affairs, told the meeting the government had done everything possible to involve all stakeholders before implementing the system in 2000.

"The decision was taken in consultation with the industry. The allegations that there are bureaucracies may be justified, but whatever decision the government is taking is well informed with science ... to protect the resources to be utilised

everything was done to ensure that the fishing industry was fully aware. We did every possible thing to bring all stakeholders on board."

Buthelezi said it was not too late for the fishermen to make their voices heard.

"The process is not over yet; we have 74 rights that still need to be allocated. The department is flexible, and recognises that traditional and artisanal fisheries are part of our heritage.

"The door is still open and those who are not happy can still appeal to the department before

Newspaper clipping from the Cape Argus, 24 July 2003

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Appendix D2

FISHERS' PLEA TO GOVERNMENT

CAPE TIMES 23-3-2006

Protesting a quota of hardship

AZIZ HARTLEY

EMOTIONS ran high when 500 angry Western Cape small-scale fishers, who had been denied quotas, marched to parliament yesterday to highlight their anguish at not being allowed to fish legally.

The protest, organised by the Masifundise Development Trust, heard how badly families in coastal fishing communities suffered and that many fishermen had to resort to poaching in their struggle to make a living.

"I have personally seen how grown fishermen cry because they cannot put bread on the table or provide for their families' most basic needs. The withdrawal of quotas is destroying vulnerable families who have no other means of income. We are pleading with government to look at what is happening to us and to do the right thing," Soelene Smith, a fisher from Langebaan, said.

The fishers, from as far as Paternoster, Struisbaai and Laaiplek, met in the city as part of a two-day campaign to demand their rights to fish.

Naomi Smith from Paternoster said: " Poor fishermen, out of desperation to make a living, resort to poaching and do not mind risking their lives. In fishing communities, most of the problems like drug abuse, gangsterism and other social ills are due to withdrawal of quotas. If we want to survive, we have no choice but to poach and the government must take responsibility for this. We ask, in the name of God, that our right to fishing, a human right, be restored."

Shouting a variety of expletives, the protesters vented their anger when told that neither Environment and Tourism Minister Marthinus van Schalkwyk nor President Thabo Mbeki were at parliament to receive their memorandum of demands.

Monde Mayekiso, deputy director-general at Marine and Coastal Management, said: "The memorandum is written to the president and the minister. It would be improper for me as an official to respond to the contents in the memorandum. The minister is overseas and will be back at the end of the month after which he will give a response."

The march was preceded by a prayer service at St George's Cathedral in the city centre where Artisanal Fishing Association chairman Andrew Johnson ended his 24-hour fast to highlight the fishers' plight. Messages of support from countries including Brazil, Chile and Malaysia were read.

"I've been through some hard times during my lifetime and have lived on the edge in the past, but I have never experienced real hunger. It is a very stressful experience. You cannot talk of being hungry unless you experience it. Many poor families are currently experiencing hunger. It is inhuman," Johnson said.

Cosatu provincial secretary Tony Ehrenreich told the gathering that fishers were worse off than before apartheid and leaders presently in government who had forgotten the plight of the poor were part of the problem.

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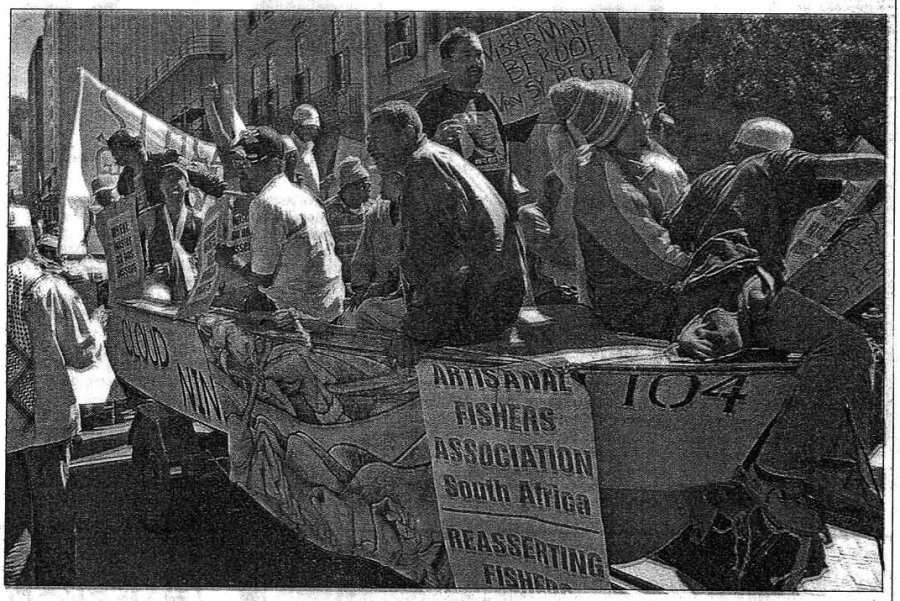

THE RIGHT TO FISH: Fisherfolk from the poorer communities march to parliament yesterday to hand over a memorandum expressing their unhappiness at being excluded from practising their craft through the quota system. *Picture: BRENTON GEACH*

Newspaper clipping from the Cape Times, 23 March 2006

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Appendix D3

False Bay fish catch 'in drastic decline'

Scarcity turning Kalk Bay fishers into nomads

By ELLA SMOOK and JADE WITTEN
Staff Reporters

The livelihoods of local fishermen are under threat as catches in False Bay have dwindled to "the worst ever".

Catches have been getting progressively worse, and the impact of the scarcity this year has seen fishermen becoming nomads, says Kalk Bay harbour master Pat Stacey, who has been at the harbour for 20 years.

"Fishing boats are not bringing in any fish (with the result that) wherever fish are running past the coastline, fishermen will try to get work on those boats ... to try make money that way.

"They can no longer sit around and wait for fish, as in previous years," said Stacey.

Climate change and the impact on resources by the number of users could be the reason for the decline in resources.

The temperature of the water had reached a "hard to believe" 23°C, Stacey said, adding that there had also been a huge impact from sport and recreational and commercial users.

"More and more people are fishing every year and it is starting to take its toll."

But Stacey said it was not "all doom and gloom".

He said it was heartening to see so many recreational fishermen carrying fishing permits.

Just before Christmas, there were "a couple of good catches" for about a week, with 40 tons of yellowtail being caught in that time.

On Sunday, there was "a bit of snoek" in Hout Bay and on Saturday 10 bins of harders were caught at Strandfontein.

"You do have the odd occasion when you have a good yellowtail run, or a bit of snoek.

"But (in previous years) the snoek season lasted four or five months and you could catch snoek every day. You just don't see that anymore.

"False Bay did not have a snoek season this year."

The Cape Argus visited Kalk Bay harbour and spoke to local fishermen who said Kalk Bay was dying.

Skipper Noel Schnugh, 59, said there had been a dramatic decline in catches recently.

A crew member of the fishing boat Valrene, who preferred to remain anonymous, said Monday's catch of about 240 fish was average compared with the rest of December when they caught "next to nothing". On a good day, they would catch close to 1 000 fish.

"The elements are not consistent anymore and we have to suffer under these conditions."

Another 57-year-old fisherman of Kalk Bay, who also preferred to remain anonymous, said he had been fishing for 44 years and woke up at 2am daily to go out and catch fish for his family, especially his youngest daughter.

"I do it for my baby Leila. Sometimes it's all in vain. I have to put food on the table, but we are struggling," he said.

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Newspaper clipping from the Cape Argus, 2 January 2008

Dwindling stocks leave local fishermen 'in dire straits'

By ANDISIWE MAKINANA
Staff Reporter

Fishing experts are describing the current shortage of catch as the "worst ever", with the Cape West Coast bearing the brunt of dwindling fish stocks.

Fishermen say the declining numbers have left the linefishing industry in dire straits and could be the final straw for an industry in a state of decline.

Following a report in the Cape Argus about the dwindling catches at Kalk Bay, chairman of the SA Commercial Linefishing Association Wally Croome said snoek and yellowtail, which made up most of members' catches, had been in decline since July 2004.

"Snoek and yellowtail make up to 99% of all the fish we catch. Traditionally snoek was always available ... until July 2004," Croome said.

"Then, it's as if someone pulled the plug."

The past two weeks have, however, seen a rise in the catch of snoek off the Cape.

"We had a major decline until around December 15," Croome said.

Even the area from Cape Hangklip northwards to Port Nolloth, which is a traditional snoek area, has been suffering with the eastward shift of sardines cited as a contributing factor to the snoek decline in recent years.

Croome said the decline was at a time when fishermen were facing many challenges including the high cost of fishing and strict regulations on what fish to catch. He noted that the cost of fishing had almost doubled in the past four years because of increases in the prices of petrol, bait and spares.

"There is also a regulation introduced last year that every fishing boat must have a vessel monitoring system which costs R350 a month," he added.

Fishermen are also expecting further cost increases when the proposed insurance cover for fishing crew members is introduced.

These challenges, Croome said, had led many fishermen to fall behind with payment of their debts.

But it is not all doom and gloom, with a researcher/scientist at Marine and Coastal Management saying there seemed to be a cycle period where there would be peaks of high catch followed by a drop.

The lower availability of fish repeated itself in a cycle of about five to seven years.

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Newspaper clipping from the Cape Argus, 4 January 2008

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Appendix D4

Sunday Argus November 25, 2001 7

Anger as snoek get caught up in new regulations

JEAN LE MAY

FOR MANY Western Cape people, fish means snoek. But new rules are hitting snoek fishermen and the people who rely on them.

The long, bony fish, related to the European pike and tropical barracudas, is so much a tradition that Cape Town was once known as Snoek Town.

It has long been a staple food, and at under R14 a kilogram it is still the cheapest fresh fish.

On the West Coast, snoek, fresh or smoked, is the most important protein source throughout the year.

So West Coast fishing communities are in an uproar over the new fishing regulations that list snoek as linefish for which pricey permits are now needed.

Since July, a linefish permit costs R500 for a boat with a crew of up to four, and R6 000 for a boat with a crew of more than four.

Marine and Coastal Management (MCM) introduced the new prices to conserve linefish, a move which was generally recognised as necessary to conserve stocks. But snoek is not a threatened species.

And the permit is now far beyond the reach of many independent fishermen on the West Coast, where many families are desperately poor.

Although an MCM workshop recognised that snoek would have to be managed in a different way from other linefish species more than two years ago, nothing has yet been done about it.

Antoinette Versfeld, fisheries spokeswoman for the Democratic Alliance, took up the issue on behalf of her West Coast constituents.

"More than 70% of the linefish permits issued on the West Coast were for snoek," she told *Sunday Argus*.

"Historically, snoek fishermen were guaranteed easy and open access to a resource on which the poor depended as a staple food.

"Moreover, the complicated application forms for permits were all in English.

"The fishers cannot understand them, so they have to pay somebody to fill them in.

"They have great difficulty raising money for the fee – and run the risk of forfeiting it if the application is unsuccessful.

"They see the whole process as grossly unfair. It's a serious matter for them. Their families could starve if it is not put right."

Versfeld said that the MCM had been "sympathetic" towards snoek fishermen.

Horst Kleinschmidt, deputy director-general of environment affairs and head of MCM, has asked her to help prepare a plan to manage the snoek fishery.

After consulting extensively with West Coast communities, the plan has now been sent to MCM, where a spokesman said there was "a great deal of debate about the snoek fishery".

Kleinschmidt was not available for comment yesterday.

Newspaper clipping from the Cape Argus, 25 November 2005

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Appendix D5

ALL-NIGHT SURVEILLANCE PAYS OFF

Six caught with 1 700 rock lobsters

CARYN DOLLEY

SIX fishermen will appear in court today after being watched overnight in Simon's Town allegedly hauling bags of more than 1 700 mostly undersized rock lobsters worth around R50 000 into a boat.

But before the group could make off with the catch, Marine and Coastal Management (MCM) members and Table Mountain National Park (TMNP) rangers who had been observing and waiting on land, arrested them early yesterday shortly after they returned to the shore.

A boat, vehicle and 1 703 West Coast rock lobsters were confiscated.

The owner of the boat and his five crewmen, aged between 25 and 46 years, will appear in the Simon's Town Magistrate's Court today.

Yesterday, Justin Buchmann, a TMNP Cape Point section ranger, said they had "received private information" about possible illegal activities at sea and began watching the boat on Tuesday evening.

It was launched to sea but the eight MCM members and rangers remained on land.

"The observation was land-based. We watched the boat for the duration of its fishing expedition.

"We had it under surveillance from the evening through to the morning. We waited for them to get back on land and put the boat on a trailer," Buchmann said.

He did not yet want to comment on what was seen while the boat was at sea as this would likely be used in court.

CAUGHT: MCM undercover staff made a huge crayfish bust near Simon's Town yesterday morning. *Picture: CASSIE CARSTENS*

At 3.30am the suspected illegal fishers were arrested at the Simon's Town Yacht Club.

Hours later they were transported to the Simon's Town police station where they were detained in holding cells.

The rock lobsters were confiscated and taken to MCM quarters in Paarden Eiland where they were weighed.

Buchmann said it had so far been estimated the illegal catch was worth between R40 000 and R50 000.

MCM spokesperson Carol Moses said 1 703 rock lobsters had been confiscated of which only 300 were legally sized.

The boat and a bakkie were also confiscated.

Moses said the boat's owner was a line fish right holder and it was possible his line fish right, which was issued two years ago and was due to expire in six years, would be suspended or revoked.

She said he also faced a charge of contravening the Merchant Shipping Act.

Police spokesperson Andre Traut, said all six men faced charges of excess crayfish possession without a permit and also possession of undersized crayfish.

They also faced a charge of contravening the Marine Living Resources Act of 1998.

These arrests come just over a month after 17 suspected perlemoen poachers were nabbed in operations in Hout Bay and Robben Island.

At least 77 perlemoen, two "superduck" inflatable boats and perlemoen-shucking equipment were confiscated.

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Newspaper clipping from the Cape Times, 20 March 2008

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