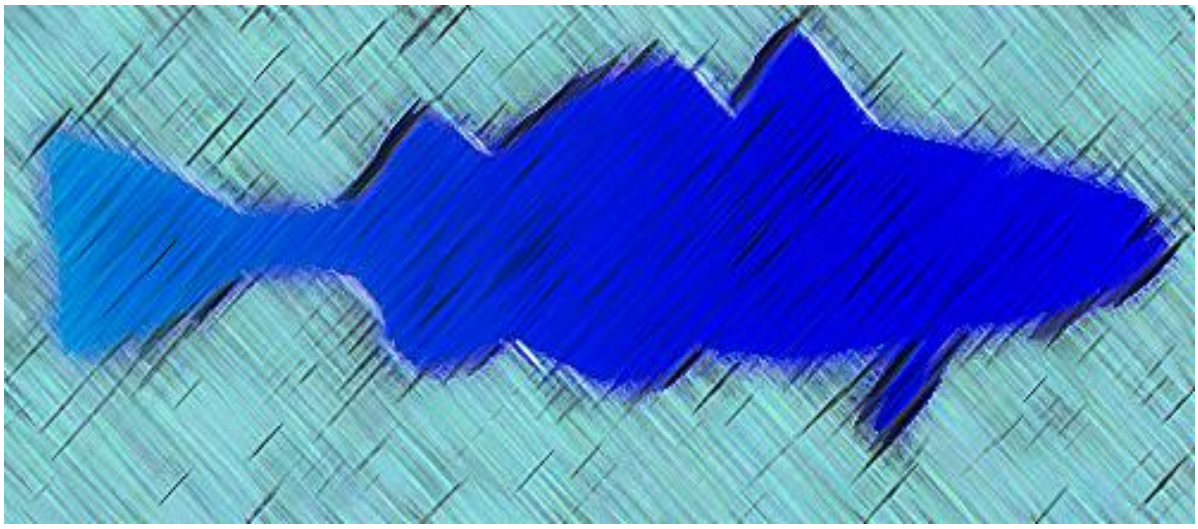
AN ANALYSIS OF FISHERIES MANAGEMENT PROTOCOLS IN THE BCLME COUNTRIES

BCLME Project LMR/SE/03/03



PRESENTED TO:

BCLME Benguela Current Large Marine Ecosystem Programme

BCLME Activity Centre for Living Marine Resources

PRESENTED BY:

ENVIRO-FISH AFRICA

ON BEHALF OF:

ENVIRO-FISH AFRICA FEIKE UNIVERSITY OF CAPE TOWN tralac BRUCE SHALLARD AND ASSOCIATES Strategic Fisheries Management Advisors

THE CONSORTIUM

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EXECUTIVE SUMMARY

The focus of this report is the analysis of fisheries management protocols – being the institutional arrangements and policy tools used to manage fisheries – in each of the three BCLME countries. The report provides a set of recommendations aimed at pursuing the goal of harmonising fisheries management in the BCLME.

This report has found that –

1. Each of the three countries has appropriate institutional arrangements for the management of their fisheries. Angola's Ministry of Fisheries is the youngest of the three BCLME fisheries regulatory bodies. Namibia's Ministry of Fisheries and Marine Resources recently restructured itself to include a specialist aquaculture directorate. South Africa's Marine and Coastal Management branch was established in 2000 – before that it was known as the "Sea Fisheries Chief Directorate" – with its core focus on research.

2. Neither of the three BCLME countries currently possess sufficient (or in South Africa's case, any) fisheries managers or have in place development initiatives to train and develop young fisheries managers.

3. With respect to fisheries, laws, regulations and policy, each country has in place primary legislation that aims to give effect to broader domestic socio-economic policies and international obligations. South Africa has recently published a suite of comprehensive fisheries policies for each of its 22 commercial fisheries. Namibia and Angola recently each promulgated new primary legislation concerning the regulation of fisheries. Namibia has also put in place management plans for each of its major commercial species. Angola however does not have in place any fisheries management plans or policies.

4. As each BCLME country regulates access to its commercial and artisanal fisheries, the opportunity exists for important policy and regulatory harmonisation with respect to shared stock management.

5. As far as fisheries research and compliance is concerned, opportunities exist for the BCLME countries to share costs, skills and resources to more efficiently and regularly conduct joint research and compliance exercises.

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LIST OF ACRONYMS

AFA	Annual Fisheries Agreement
BCLME	Benguela Current Large Marine Ecosystem
BENEFIT	The Benguela Environment Fisheries Interaction and Training Programme
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
DDC	Directorate of Development Co-operation
DEAT	Department of Environmental Affairs and Tourism (South Africa)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EU	European Union
EVAC	Environmental Variability and Co-ordination Unit
FAO Code of Conduct	The Food and Agricultural Organisation Code of Conduct for Responsible Fisheries
GEF	Global Environment Facility
HABs	Harmful Algal Blooms
IBCC	Interim Benguela Current Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Commission on the Exploration of the Sea
MCM	Marine and Coastal Management, a Branch within DEAT (South Africa)
MCS	Monitoring, Control and Surveillance
MET	Ministry of Environment and Tourism (Namibia)
MFMR	Ministry of Fisheries and Marine Resources (Namibia)
MME	Ministry of Mines and Energy (Namibia)
NPC	National Planning Commission (Namibia)
ORM	Orange River Mouth
PCU	Programme Co-ordinating Unit (of the BCLME)
PSC	Programme Steering Committee (of the BCLME)
SADC	Southern African Development Community
SAP	Strategic Action Programme (of the BCLME)

SEAFO	South East Atlantic Fisheries Organisation
TAC	Total Allowable Catch
TDA	Transboundary Diagnostic Analysis
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
ZOPCSA	Zone of Peace and Co-operation in the South Atlantic

1. INTRODUCTION

Project LMR/SE/03/03, titled Microeconomic Systems and Governance, has as its overarching premise an analysis of the economics of the fishing sectors and of the regulatory systems governing the fishing sectors in each of the Benguela Current Large Marine Ecosystem ("BCLME") member states; the aim being to harmonise the management of shared stocks. The Preamble to the BCLME Programme records that–

> *"…concerned about the fragmented nature of regional management and the urgent need to strengthen and jointly engage member states in the co-ordination and conservation of the resources of the Benguela Current as an integrated ecosystem…"*

The BCLME's strategic action programme (SAP) identifies a suite of six policy actions that are to address the main issues expressed in the trans-boundary diagnostic analysis (TDA). One of these concern the harmonisation of shared stock management. Harmonisation is expressly noted not to unquestioningly imply "joint management". Rather, it is intended to encourage each member state to implement measures that are complementary in the objective of the measures ultimately aimed at. In other words, when implementing eco-system-orientated management measures across the three countries of the BCLME (Angola, Namibia and South Africa), it is implicit that uniform laws, regulations and measures cannot merely be applied in a blanket-fashion, without each of the countries having given adequate consideration to contextual, historical and developmental differences between these three countries. The BCLME Consortium in its reports on Comparative Legal Analysis and Law Reform will advise on appropriate harmonisation measures and legal reform. In its report on ***Transformation of the Marine Fisheries in the BCLME Countries***, The Consortium had made a number of recommendations regarding the effecting of substantive transformation in each of the three BCLME countries (*October 2005)*.

In this report, fisheries management protocols are assumed to refer to the codified management tools employed by fisheries managers, decision-makers and the fishing industry to manage the fishing industry in a way that ensures predictability, rationality and sustainability. It is important to note that although this report will critically and objectively analyse the fisheries management regimes applicable in each BCLME country, any recommendations made on the harmonisation of policies or laws are made with regard to the socio-politico-economic role fisheries has in each BCLME country. Accordingly, The BCLME Consortium acknowledges and recognises up front that fisheries management, research and compliance cannot be effectively undertaken in developing countries without understanding the socio-economic status and political history of the subject country. It is therefore important that the report ***Transformation of the Marine Fisheries in the BCLME Countries***[1] be considered in conjunction with this report. Both reports have important and significant overlaps.

This report will –

- Examine the institutional arrangements applicable to each BCLME country;
- Analyse the systems currently in place for the management of fisheries in each BCLME country; and
- Provide a set of recommendations aimed at ensuring that effective fisheries management protocols are in place in each BCLME country and that these are as complementary as possible to ensure effective marine ecosystems management.

This report has been structured as follows–

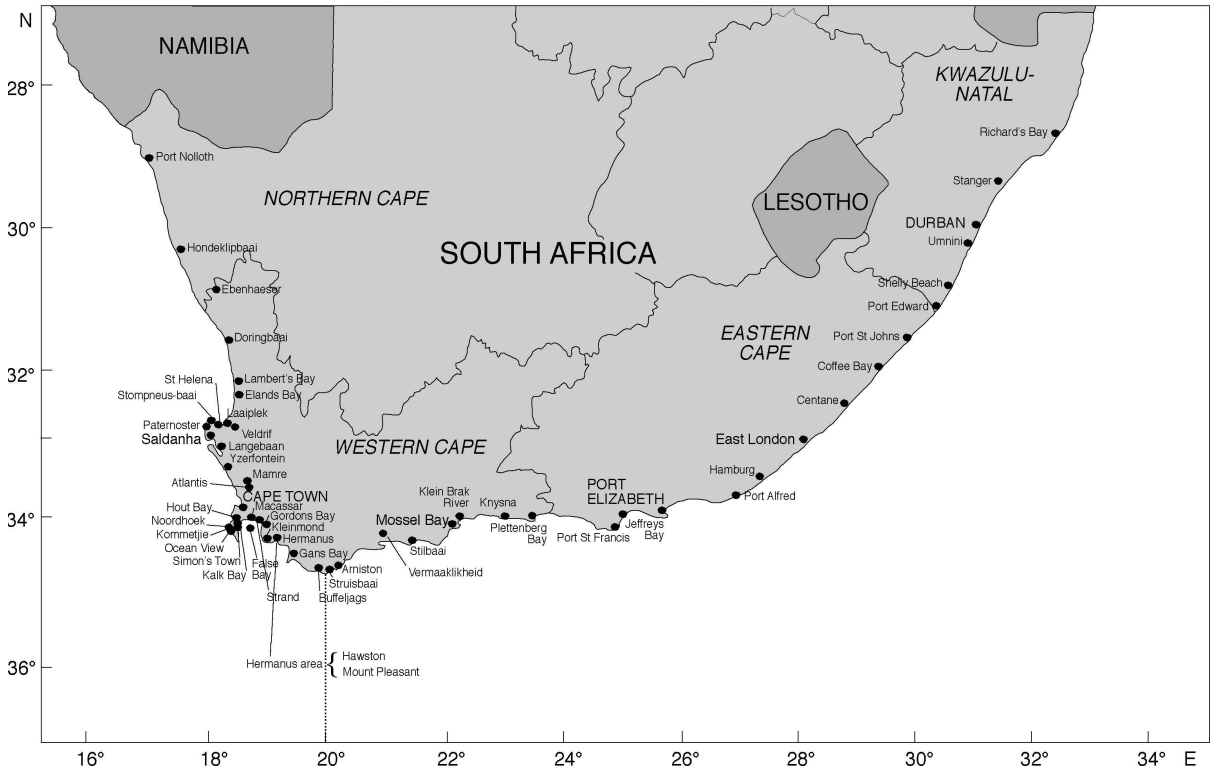
[1] For a copy of this report see www.feike.co.za ("Library"), alternatively www.bclme.org.

- Section 2: Fisheries Protocols in South Africa
- Section 3: Fisheries Protocols in Namibia
- Section 4: Fisheries Protocols in Angola
- Section 5: Recommendations

The analysis of fisheries protocols that follows below is focused on the commercial fisheries shared by the three BCLME countries. The major shared stocks that exist in this eco-system include:

- Hakes;
- Small Pelagics (sardines and anchovies);
- Large Pelagics (swordfish and tunas); and
- Horse Mackerel.

2. FISHERIES PROTOCOLS IN SOUTH AFRICA



2.1 Introduction to Fisheries Management

The South African fishing industry is regulated by the Department of Environmental Affairs and Tourism, and in particular its branch, Marine and Coastal Management, located in Cape Town. South Africa manages its fisheries strictly in terms of a regulated or "closed" system. All forms of fishing may only occur in terms of a fishing permit or fishing right.

The branch Marine and Coastal Management ("MCM") is led by a deputy director-general ("the DDG") and four chief directors, respectively responsible for finance, fisheries research, fisheries management and fisheries compliance.[2] The post of DDG was created in 2001 after it was recognised that the fisheries division required more senior standing in a large Government department with a host of other responsibilities. MCM's core function is the sustainable management of South Africa's fish stocks. In addition, section 2(j) of the Marine Living Resources Act, 1998 (Act No. 18 of 1998) requires the Minister of Environmental Affairs and Tourism to have regard to the need to restructure and transform the South African fishing industry due to the inequitable policies of apartheid. Given that the Minister is responsible in terms of the Act to allocate fishing rights (or quota's) and the volatile nature of managing fisheries in South Africa as anywhere else, recent Ministers responsible for this portfolio have paid exceptional attention to fisheries issues.

South Africa is a participating member in the Food and Agriculture Organisation and regularly attends meetings of the Committee on Fisheries. South Africa complies with the FAO Code on Responsible Fishing but has yet to formally implement any of the National Plans of Action required by FAO in terms of its International Plans of Action on IUU Fishing, Effort and

[2] See Marine and Coastal Management's website, www.mcm-deat.gov.za

Capacity or Sharks. South Africa was also a key contributor to the development of the Johannesburg Plan of Implementation (2002).

South Africa's Marine and Coastal Management branch regulates more than 20 commercial fisheries, fish processing (whether on board vessels or on land) and aquaculture. In addition, MCM regulates subsistence and recreational fishing. Commercial fishing may only take place in terms of a fishing right or quota allocated by the Minister of Environmental Affairs and Tourism. The following commercial fisheries are regulated:

Highly Capital Intensive Fisheries:

- Hake deep sea trawl;
- Hake inshore trawl;
- Small pelagics;
- South coast rock lobster;
- Horse mackerel;
- Patagonian Toothfish;
- KwaZulu-Natal Prawn Trawl.
- Large pelagics (tuna and swordfish long-line)

Less Capital Intensive Fisheries:

- West Coast Rock Lobster (offshore);
- Hake long-line;
- Squid;
- Tuna pole;
- Abalone;
- Seaweed;
- Demersal shark

Small Scale / Artisanal Fisheries:

- West coast rock lobster (nearshore);
- Hake hand-line;
- Traditional line fish;
- Net fishing;
- White mussels;
- Oysters.

The South African commercial fishing industry landed almost one million tons of fish in 2004. The gross landed value of fish is approximately R4 billion (600 million US dollars). South Africa's most valuable fishery is the hake fishery (trawl and line) worth more than 40% of the total landed value of the South African fisheries. The small pelagic fishery (anchovy and sardine) is responsible for the largest quantum of fish landed of all the commercial fisheries, landing approximately 500 000 tons of pelagic fish (including red eye herring).

More than 3900 fishing rights (or quotas) were allocated to in the commercial fisheries in 2001 and 2002. These rights or quotas were allocated for a four year period and by law[3] revert back to the South African government toward the end of 2005.[4] In addition to the commercial fishing quotas allocated, more than 2000 authorisations have been issued to subsistence fishers who fish for resources such as line fish, mussels, abalone, east coast rock lobster and oysters for purposes of food security. Furthermore, some 1 million people fish on a recreational basis for line fish and other game fish species along the South African

[3] See section 18 of the Marine Living Resources Act, 18 of 1998.
[4] All rights revert to the state on 31 December 2005, except for rights allocated in the abalone, tuna long-line, south coast and west coast rock lobster fisheries. Fishing rights in the abalone and tuna long-line have been allocated for 10 year periods each. Rights in the south coast rock lobster and west coast rock lobster fisheries revert to the state in October 2005 and November 2005, respectively.

coast either from the shore or from ski-boats, which are easily launched into the sea from either small landing sites or from the beach into the surf.

South Africa's commercial fisheries are generally well organised. The highly capital intensive fisheries in particular are organised into recognised industrial bodies that represent their members' interests on important bodies such as fisheries research and management working groups that advise the MCM heads of research and fisheries management on a range of matters.

South Africa's fisheries are broadly managed in terms of four principal management tools. These are in terms of –

- Total allowable catches;
- Total applied effort controls;
- A combination of the two management methods stated above;
- Marine protected areas or closed areas.

Of South Africa's 21 commercial fisheries, 9 are managed in terms of total allowable catches ("TAC") only. One (South coast rock lobster) is managed in terms of a combination of a TAC and a total applied effort (sea day restrictions). The remaining fisheries are regulated in terms of a TAE only, which includes restricting vessel numbers, crew numbers or sea days (or a combination of the three).

The South African commercial fisheries are generally well managed with current and reliable catch and research data. The biological status of fish stocks is also broadly understood, with all fisheries being either optimally or maximally exploited, save for abalone and certain traditional line fish stocks. Abalone TAC's have fallen dramatically over the last 6 years as the effects of decades of over-fishing and poaching are now impacting on operational management procedures. In addition, the intrusion of larger numbers of west coast rock lobster in formerly abalone rich areas has impacted negatively on the spawning rates of abalone. With respect to traditional line fish stocks (which comprises some 200 different fish species), 19 species are categorised as "collapsed", with a further 50 categorised as over-exploited.

In accordance with the international law, South Africa has enacted legislation in terms of which it declared a 200 mile exclusive economic zone adjacent to its 3000 kilometre coastline. All commercial, subsistence and recreational fishing may only occur within the EEZ, unless otherwise authorised by the Minister of Environmental Affairs and Tourism.[5]

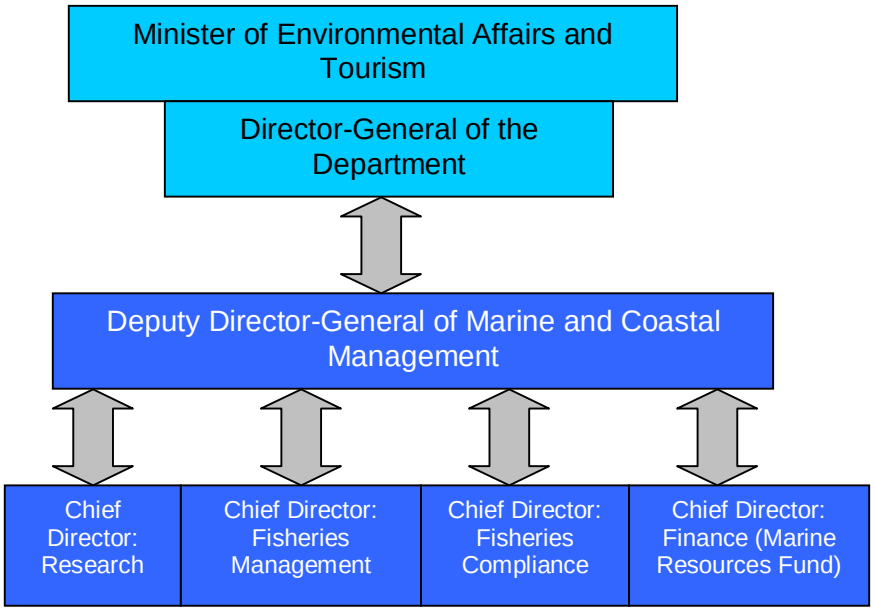
2.2 Institutional Arrangements

Fisheries management (or resource management), fisheries research and development (as well as management of South Africa's Antarctic and Islands research interests) and fisheries compliance (or monitoring, compliance and surveillance) are each comprised as chief directorates reporting directly to the Deputy Director-General of the Branch, Marine and Coastal Management.

The Branch is responsible for regulating access to marine fisheries only – access to fresh water fisheries is regulated by the Department of Agriculture as well as local authorities of which there are more than 280.

[5] Part 7 of the MLRA makes provision for the Minister to issue a High Seas Fishing permits subject to such conditions as may be considered appropriate.

Marine fisheries are accordingly regulated by the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management ("the Department") in the ***national sphere*** of government.



2.2.1 Fisheries Research

This function is carried out by the Chief Directorate: Research, Antarctica and Islands. The principal purpose of scientific research is to ensure the ecologically sustainable utilisation of fish stocks and the conservation of marine ecosystems, including species which are not targeted for exploitation such as seals and seabirds. This chief directorate is also responsible for scientific research in the Antarctica (SANAE IV station) and on the islands of Prince Edward and Marion in the Southern Ocean.

Scientific research is aimed at understanding the dynamics of fish stocks and informs the Total Allowable Catch (“the TAC”) or the Total Applied Effort (“the TAE”) or a combination thereof, which is determined in terms of section 14 of the Marine Living Resources Act, 18 of 1998 ("the Act"). Scientific research further informs the designation of marine protected areas. Where prescribed in terms of the Act, or as a permit condition, scientific research also informs the designation of fisheries management areas, the determination of closed areas, closed seasons, prohibited fishing times, minimum species size, vessel and gear restrictions and fishing methods, including by-catch mitigation measures. Scientific research importantly also advises of potential new fisheries, which may be developed in terms of the Department’s *New Fisheries Policy.*

Scientific working groups currently function in respect of each fishery sector. Each working group comprises of departmental scientists as well as external experts from other marine science institutions, including institutions of higher learning. Most sectors are scientifically managed in terms of an Operational Management Plan (*OMP*). Others are managed by means of annual assessments. The scientific working groups are responsible for interpreting the stock analyses and other research carried out on the different fish stocks which ultimately inform the determination of the TAC/TAE.

2.2.2 Fisheries Management / Resource Management

This function is performed by the Chief Directorate: Resource Management. The Chief Directorate has two primary functions. Firstly, it facilitates and regulates the sustainable and equitable development as well as the utilisation of marine living resources through the administration of fishing rights, permits and licenses. Secondly, it optimises the sustainable use of South Africa's coastal resources by controlling human impacts on the environment, such as coastal development, subsistence fishing, marine pollution and marine eco-tourism.

In order to carry out these functions, the Chief Directorate has a number of supporting mechanisms that advises on, *inter alia,* –

- The management of the effort to which any particular fishery may be subjected;
- Fisheries economics;
- Oil and marine pollution management;
- Coastal zone management.

2.2.3 Fisheries and Coastal Compliance

This function is performed by the Chief Directorate: Monitoring, Control and Surveillance. The Department currently employs fishery control officers responsible for ensuring that all fishing takes place in a regulated and lawful manner and that all landings are properly recorded.

To ensure compliance with fisheries laws and regulations, the Chief Directorate has invested in a number of compliance tools aimed not only at **enforcing** compliance but importantly **encouraging** compliance. Compliance tools include:

- Five state of the art inshore and offshore environmental patrol vessels;
- Specialised environmental courts;
- Observer programmes;
- Marine protected areas;
- Vessel monitoring systems;
- Public education programmes;
- Co-management of fish stocks;
- Honorary fishery control officers;
- Strategic compliance partnerships with non-governmental organisations, local governments, conservation bodies and other applicable organs of state.

2.3 Fisheries Management

The Government of the Republic of South Africa, and in particular its Department: Environment and Tourism, Branch Marine and Coastal Management, will in 2005 record a watershed in the management of South African commercial fisheries by allocating fishing rights or quotas for periods of up to 15 years.

The principal regulatory framework governing fisheries management comprises section 24 of South Africa's Constitution and the Marine Living Resources Act of 1998[6].

The allocation of long term commercial fishing rights[7] or quotas in 2005 marks the third phase in the maturation of the South African fishing industry in the post 1994 era. The first two phases are discussed below. The third phase will be discussed with reference to South Africa's fishing policies.

2.3.1 Phase 1: The Period 1994 to 2001

Prior to the promulgation of the Marine Living Resources Act in 1998, the Sea Fisheries Act of 1989 regulated commercial fishing in South Africa. Fishing quotas were allocated annually but essentially "rolled" over to quota holders year in and year out.

Like all other facets of South African economic and social activity, the wealth of marine resources was exploited for the benefit of a very small minority. By 1994, no more 400 entities exploited South Africa's commercial fisheries. By way of example, more than ninety percent of South Africa's most lucrative fishery, the hake deep sea trawl fishery, was shared between 5 companies. In terms of current value, these 5 companies would have controlled approximately R1.2 billion of a fishery worth approximately R1.4 billion annually.

In addition, ninety-nine percent of South Africa's commercial fisheries were owned and managed by white male South Africans. The challenge that the post apartheid Government faced was how to broaden access to valuable fish stocks and manage pressured stocks, particularly in the inshore region, sustainably.

The first real attempt to equitably redistribute fishing quotas was to establish a Fisheries Transformation Council (FTC) in 1998 under the Marine Living Resources Act. This Council's principal objective was to allocate fishing rights to fishers from coastal communities disadvantaged by the legacies of apartheid and thereby attempt to redistribute the skewed way in which fishing quotas were allocated. In 1994 Government introduced an experimental fishery for the harvesting of hake by long-line. The experimental fishery continued until 1998 when the FTC attempted to allocate commercial fishing rights in this fishery. As with most of the allocations of fishing rights attempted by the FTC, the first ever attempt to allocate hake long-line fishing rights to predominantly black fishers and black owned fishing companies was set aside by South African courts due to various procedural flaws committed by the FTC. The FTC was also dogged by rumours and accusations of maladministration and corruption. The effect of the reign of the FTC over fishing right allocations during the 1998/1999 and 1999/2000 fishing seasons was general chaos and significant instability in the South African fishing industry. In 2000, the newly appointed Minister of Environmental Affairs and Tourism, Mohammed Valli Moosa[8], requested the Parliament of South Africa to permit a once off "roll-over" of fishing rights from the 1999/2000 fishing season to the 2000/2001 fishing season in an attempt to design a strategy to secure transformation of the fishing industry and entrench economic stability and an environment in which large fishing companies would feel confident to invest further in infrastructure and jobs and small companies would be able to develop. An amendment – section 18(6A) – to the Marine Living Resources Act was passed in 2000 and all fishing allocated in the 1999-2000 fishing season remained valid for the 2000/2001 fishing season.

[6] The Constitution of the Republic of South Africa, Act 106 of 1998.
[7] The Marine Living Resources Act refers to fishing quotas as "rights". They do not however constitute rights in the legal sense. Rather, fishing rights are more akin to quotas as they are allocated for periods determined by the Minister, Environment and Tourism and revert automatically back to the South African Government upon expiry of the period.
[8] Mohammed Valli Moosa was appointed as Minister of Environmental Affairs and Tourism in the Cabinet of President TM Mbeki in June 1999 and served as Minister until April 2004. Mohammed Valli Moosa currently serves as the President of the World Conservation Union.

The Minister disbanded the FTC in 2000. In 2000, a special projects manager, Horst Kleinschmidt, was appointed to lead the design of a strategy that would meet the above objectives. By the end of 2000, the Minister had established the branch Marine and Coastal Management, which had its own marine living resources fund to fund fisheries management, compliance and research needs.[9] In less than twelve months the Minister would have to allocate fishing rights.

2.3.2 Phase 2: The Period 2001 to 2005

Horst Kleinschmidt, Deputy Director-General of the Branch Marine and Coastal Management (2001-2005), took a strategic decision in early 2001 that the Government would no longer allocate fishing rights on an annual basis. Annual fishing right allocations only concretised economic uncertainty and did not provide small black fishing entrepreneurs with the security needed to raise capital. The decision was taken to allocate fishing rights for a four year period across all fishing sectors. The only exceptions were abalone (2 year rights were allocated)[10] and mariculture/aquaculture (15 year rights were allocated).

In June 2001, the Department appointed an internationally reputable forensic auditing firm to oversee the entire process of fishing rights allocation. That same month saw the appointment of an independent Johannesburg-based team of project management specialists and legal advisers. Their brief was to ensure that the process of allocating fishing rights was transparent yet insulated from any form of undue influence and maladministration.

In July 2001, the Department invited applications for commercial fishing rights from the industry and fishers. Applications had to be submitted by September 2001. More than 5000 applications were received.

Between September 2001 and January 2002, some 3000 fishing rights were allocated. A further 900 were allocated by the Minister of Environmental Affairs and Tourism by way of appeals lodged against the initial set of decisions. More 50 review applications were brought by members of the industry and unsuccessful applicants. Every application to a court of law to halt the process or set it aside failed – a unique achievement in South African fisheries management. In 2004, South Africa's highest judicial authority, the Constitutional Court ruled in the matter of *Bato Star Fishing (Pty) Ltd v The Minister of Environmental Affairs and Tourism & Others,* that the process of allocating fishing rights was constitutionally sound.

The allocation of these medium term commercial fishing rights measured a significant leap forward in fisheries management and the empowerment of black South Africans, previously excluded from the lucrative fishing economy. Today, more than 3900 commercial fishing rights are exploited in South African waters by South Africans. No foreign fishing is permitted. Of the 3900 rights allocated, 66% are controlled by black South Africans (either individuals or entities). No fishery has been immune to change. Broad based black economic empowerment has filtered through the most capital intensive fisheries as well as those considered economically marginal.

The hake deep sea trawl fishery is South Africa's most lucrative fishery. The landed value of hake caught is approximately R1.4 billion annually. The fishery has an asset value in excess of R800 million. It employs more than 8000 people. In 1992, it was entirely white owned and managed with 5 of the largest fishing companies controlling 92% of the total allowable catch. A decade later, 74% of the right holders are black, controlling 25% of the total allowable catch (0% in 1992). The 5 largest fishing companies today control 75% of the total allowable catch.

[9] See www.mcm-deat.gov.za and link to "About MCM/structure" to view the current structure of Marine and Coastal Management, which today employs approximately 700 staff along South Africa's coastline.
[10] Two year rights were allocated in the abalone fishery as the biological status of this fishery was unclear due to high levels of poaching and the predation of lobster on abalone.

While the successful allocation of medium term fishing rights (2001-2005) resulted in never before seen levels of economic stability, participation in commercial fisheries and resource sustainability, the allocation of long term fishing rights (of up to 15 years) will significantly raise these levels.

2.3.3 Aquaculture

The regulation of aquaculture in South Africa is currently completely disjointed. The regulation of the culture of marine-based aquatic organisms is the responsibility of the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management, while the culture of fresh water organisms is the responsibility of the Department of Agriculture. In addition, authorisation for aquaculture activities requires approvals from each of the three spheres of government – local, provincial and national. This has historically been a deterrent to further investment in aquaculture as a viable alternative to capture fisheries. To compound this problem even further, there are no policies or regulations to effectively monitor, encourage and certify aquaculture. An initiative, funded by the Norwegian government in terms of the Norwegian-South African bilateral, has sought to inject impetus into the regulation and co-ordination of aquaculture in South Africa.

2.4 Legal Framework

South African fisheries management is informed both by South Africa's legal obligations and its non-binding undertakings at an international and regional level. The most important instruments are noted below.

2.4.1 Legal Obligations

2.4.1.1 The Constitution of the Republic of South Africa, 1996

A number of rights in Chapter 3 (the Bill of Rights) are applicable. These rights include:

- Section 9 (the right to equality and the need to address past injustices);
- Section 24 (the right to a protected environment that is managed in an ecologically sustainable way balancing socio-economic development with sustainable natural resource use;
- Section 32 (the right of access to information); and
- Section 33 (the right to administrative action that is reasonable, fair and lawful).

2.4.1.2 The National Environmental Management Act, 1998

The National Environmental Management Act of 1998 ("NEMA") is the framework environmental legislation in South Africa. It importantly sets the framework in terms of which any decision that significantly affects the environment must comply with the principles set out in section 2 of Chapter 1 of NEMA.

NEMA, Chapter 1, Section 2 Principles:

The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—

(a) shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;

(b) serve as the general framework within which environmental management and implementation plans must be formulated;

(c) serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;

(d) serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and

(e) guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection or management of the environment.

2.4.1.3 The Marine Living Resources Act, 1998

The Act is the principal legislative instrument in terms which fisheries are managed. The foundational provisions in terms of which the allocation of commercial fishing rights is regulated are sections 2 and 18 of the Act.

MLRA Section 2 Objectives and principles:

The Minister and any organ of state shall in exercising any power under this Act, have regard to the following objectives and principles:

(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.

MLRA Section 18 Granting of Rights

(1) No person shall undertake commercial fishing or subsistence fishing, engage in mariculture or operate a fish processing establishment unless a right to undertake or engage in such an activity or to operate such an establishment has been granted to such a person by the Minister.

(2) An application for any right referred to in subsection (1) shall be submitted to the Minister in the manner that the Minister may determine.

(3) The Minister may require an environmental impact assessment report to be submitted by the applicant.

(4) Unless otherwise determined by the Minister in relation to the holders of existing rights, only South African persons shall acquire or hold rights in terms of this section.

(5) In granting any right referred to in subsection (1), the Minister shall, in order to achieve the objectives contemplated in section 2, have particular regard to the need to permit new entrants, particularly those from historically disadvantaged sectors of society.

(6) All rights granted in terms of this section shall be valid for the period determined by the Minister, which period shall not exceed 15 years, whereafter it shall automatically terminate and revert back to the State to be reallocated in terms of the provisions of this Act relating to the allocation of such rights.

(6) (a) If the Minister has granted a right contemplated in subsection (6) to a person for a period not exceeding three years, the Minister may once only, at the expiration of such period, extend the period of validity of the right for a further period not exceeding two years on such terms and conditions as he or she may impose.

(b) The Minister may extend the period of validity of the right in whole or in part, but must have regard to any change in the total allowable catch, the total applied effort determined in terms of section 14 or to both such change and effort.

In addition to the above provisions, a number of regulations promulgated in terms of the Act impact upon the commercial fisheries. These regulations include those designating marine protected areas (where fishing is generally prohibited or strictly controlled) and regulations prescribing the particular rules as they pertain to particular fisheries.

2.4.1.4 The United Nations Convention on the Law of the Sea, 1982

The premise underpinning UNCLOS is the recognition of the need to establish a legal order for the world's seas and oceans, to facilitate international communication, promote the peaceful use of the world's seas and oceans, the equitable and efficient utilization of marine resources, the conservation of marine living resources and the study, protection and preservation of the marine environment.

2.4.1.5 The UN Fish Stocks Agreement, 1995

The UN Fish Stocks Agreement complements UNCLOS by recording how straddling fish stocks (such as hake) and highly migratory fish stocks (such as tunas) are to be exploited and managed.

2.4.2 International and Regional Obligations

2.4.2.1 Food and Agriculture Organisation's Code on Responsible Fisheries

The 1995 Code on Responsible Fisheries is a voluntary instrument recognising that fisheries, including aquaculture, provide a vital source of food, employment, recreation, trade and economic well-being for people throughout the world, both for present and future generations and should therefore be conducted in a responsible manner. The Code sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The Code recognises the nutritional, economic, social, environmental and cultural importance of fisheries and the interests of all those concerned with the fishery sector. The Code takes into account the biological characteristics of the resources and their environment and the interests of consumers and other users. As a state party, South Africa has undertaken and is committed to apply the Code and give effect to it. The Code has also given birth to four International Plans of Action (IPOA's). The IPOA's are:

- The IPOA on Capacity;
- The IPOA to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing;
- The IPOA for the reduction of shark by-catches; and
- The IPOA for the reduction of the incidental by-catch of seabirds.

South Africa is committed to implementing each of the four IPOA's, including the design of National Plans of Action to give further effect to each IPOA.

2.4.2.2 World Summit on Sustainable Development

During the World Summit on Sustainable Development ("WSSD"), held in Johannesburg during September 2002, countries undertook to maintain or restore fishing stocks to levels that can produce the maximum sustainable yield. The goal is to be achieved on an urgent basis for depleted stocks by not later than 2015. Countries also undertook to develop and implement National Plans of Action. The WSSD further identified the need to maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, within and beyond national jurisdictions. The Department remains committed to developing and

facilitating the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas, and time and area closures for the protection of nursery grounds and spawning periods. More specifically, in terms of the Johannesburg Plan of Implementation emanating from the WSSD, South Africa is committed to introduce an ecosystem approach to fisheries ("EAF") Management by 2010. Additionally, the *Reykjavik Declaration* of 2001 affirmed the requirement to ensure sustainable fisheries by incorporating ecosystem management into fisheries management.

2.4.2.3 Regional Fishery Management Organisations

South Africa is a party to a number of regional fishery-management organisation conventions responsible for the management and conservation of shared fish stocks, including tunas, swordfish and Patagonian toothfish. These include the International Commission for the Conservation of Atlantic Tunas ("ICCAT"), the Commission for the Conservation of Southern Blue-fin Tunas ("CCSBT"), the Indian Ocean Tuna Commission ("IOTC") and the Convention for the Conservation of Antarctic Marine Living Resources ("CCAMLR").

2.4.2.4 SADC Protocol on Fisheries

As a member of the Southern African Development Community, and in particular a signatory to the SADC Protocol on Fisheries, South Africa is obliged to ensure the sustainable management of shared fish stocks with its SADC neighbours. These shared stocks include hake, pelagic fishes, crustaceans, line fish and horse mackerel.

2.5 Sector Specific Fisheries Policies (Phase 3: 2005 to 2020)

Complementing and giving effect to the above Constitutional, domestic, regional and international obligations are fishery-specific policies. South Africa has codified policy for each of its 22 commercial fisheries, as well as an overarching general fishing policy.[11] The policies also serve as the key regulatory tool to guide the allocation of long term fishing rights during 2005.

The allocation of commercial fishing rights in South Africa is scheduled to take place between October 2005 and March 2006, as the commercial fishing rights, allocated for a four year period between September 2001 and January 2002, terminate by 31 December 2005. During the 2001 medium term rights allocation process, the Department of Environmental Affairs and Tourism allocated 4 year-long commercial fishing rights worth approximately R15 billion. The application fee charged was R6 000 irrespective of size of applicant or quantum allocated. Whereas previously rights were allocated on an annual basis to approximately 400 right holders, the medium term fishing rights were allocated to more than 3 900 right holders (individuals and commercial entities). Of the 3 900 allocations, 66% are currently majority black owned and managed or black individuals. Approximately 70% are small and medium sized entities.

The allocation of commercial fishing rights in 2005 is intended to be for periods ranging between 8 years and 15 years. Commercial fishing rights will be allocated across 20 fisheries, ranging from capital intensive and financially lucrative fisheries such Hake Deep Sea Trawl and Patagonian Toothfish to traditional and less lucrative fisheries such as net and line fishing.

[11] These policies may be viewed at www.feike.co.za ("Library" page).

Each of the fishing policies have been subjected to both a notice and comment period and a public participation process of more than 30 days conducted in Afrikaans, isiXhosa, English and isiZulu from Port Nolloth to Richards Bay, spread amongst 53 coastal villages, towns and cities.

The authority to allocate fishing rights vests in the Minister of Environmental Affairs and Tourism. This authority has previously been delegated to at least two senior officials in the Department. In 2001 medium term rights allocation process, the Deputy Director-General of the Branch Marine and Coastal Management and the Chief Director: Research were tasked with allocating fishing rights. The Minister is the administrative appellate authority.

The fishing industry is today one of the most transformed and representative of any commercial sector in the South African economy because the allocation of fishing rights (quotas) is a competitive process based on criteria such as transformation. For perspective, in 1992, the hake deep sea trawl had zero black ownership and management. Ten years later, 75% of right holders were majority black owned and managed. Many larger "traditional" right holders in fisheries such as west coast rock lobster were not allocated fishing rights in the 2001 medium term rights allocation process because they failed to effect any meaningful transformation; others failed because their transformation attempts were considered to be "fronts" or paper quotas. Although some challenged the Department's and its Minister's decisions in court, all challenges failed.[12]

The policy for allocation of long term commercial fishing rights is premised on four core considerations. These considerations instruct that the decision-maker implements each policy so as to ensure that the following considerations are given effect:

- **Broad based black economic empowerment**: Applicants will be evaluated on their empowerment or transformation credentials. Specific criteria will include measuring black ownership and control, the representation of blacks and women at all levels of the organisation, ownership of equity by workers, corporate social investment, affirmative procurement and compliance with employment equity and skills legislation;
- **Biological considerations**: The allocation of fishing rights will occur within a biologically determined and sustainable management framework;
- **Ecological considerations**: South Africa, together with all other fishing nations are bound by the Johannesburg Plan of Implementation adopted at the World Summit on Sustainable Development to measure the impacts of fishing on marine ecosystems and to mitigate against such impacts; and
- **Socio-economic considerations**: There are two important components to this consideration. The first component is premised on the recognition that sustainable fisheries management must ensure that the manner of management must sustain an environment that is conducive to growth and investment. The second component is premised on the recognition that fisheries must play a crucial role in fulfilling the socio-economic objectives of job creation, poverty elimination and empowerment along the coast.

The estimated value of the commercial fishing rights to be allocated this year (2005) is R70 billion. The South African fishing industry is worth approximately R4 billion annually, with hake deep sea trawl accounting for slightly less than 50% at present hake market values. The industry as a whole employs some 29 000 persons directly both on land and at sea. Salaries for persons below management level (factory worker to skipper) in the more capital intensive fisheries (such as hake trawl, small pelagic, south coast rock lobster and horse mackerel)

[12] For an analysis of the transformation of South Africa's fishing industry see ***Measuring Transformation in the Marine Fisheries of the BCLME*** (see www.bclme.org or www.feike.co.za ("Library" page").

range from approximately R63 000 annually to slightly more than R90 000 annually. In the smaller fisheries, seasonal work is prevalent with increasingly less employment security. The policies aim at affirming those persons who have provided crew with full-time or permanent work, medical aid and pension security. In addition, the policies also aim at measuring how many jobs are created per ton of fish allocated between 2002 and 2005 and how many jobs were shed over the period.

The allocation of commercial fishing rights by the Department provides the South African Government with an important opportunity to intervene decisively in the lingering socio-economic imbalances in the South African economy. Winning a long term right provides a fisherman (particularly small black entrepreneurs) with hugely improved access to loan capital, at more competitive lending rates (a long term right acts as greater security than a short or medium term right). In addition, an objective of the policy is to encourage landing of fish and processing fish in cities and towns requiring investment and job opportunities, such as Port Nolloth, Hondeklipbaai, Paternoster, Arniston, East London, Plettenberg Bay, Port St Johns and others. Further, a number of fisheries are reserved for individuals or micro businesses not related to large companies.

The commitment to grow the first economy in fishing includes ensuring a legally sound allocations process, affirming small and medium owned enterprises, rewarding transformation and performance and sustainably managing our fisheries in compliance with international obligations.

What follows are highlights from the policies regulating the hake, horse mackerel, large pelagic, small pelagic, west coast rock lobster and traditional line fisheries.

2.5.1 Hake Deep Sea Trawl

Commencing in the 1890's, the demersal trawl fishery (deep-sea and inshore sectors) is South Africa's most important fishery and, for the last decade, it has accounted for approximately one half of the wealth generated from commercial fisheries. In the 1960's foreign distant water fleets moved into the Southeast Atlantic, leading to substantial over-exploitation of demersal fish stocks off South Africa and Namibia. The International Commission for the Southeast Atlantic Fisheries ("ICSEAF") was established in 1972 in an attempt to control the rapidly escalating fishery. But it was only the declaration of the 200nm Exclusive Economic Zone in 1978 and subsequent exclusion of foreign fleets that enabled South Africa to reclaim its fish resources and begin to rebuild the demersal resources. Until 1978 the demersal fishery was largely unregulated and participants were not restricted by fishing limits. An annual total allowable catch ("TAC") was introduced in 1978 and individual quotas were introduced the following year. The fishery was also formally separated into deep-sea and inshore sectors. The Deep-sea Trawl allocation of the global hake TAC has remained remarkably stable, and between 1978 and 2004 it fluctuated between the levels of 140 000 tons (1979) and 133 000 tons (2004). The two species of Cape hakes contribute 80-90% to trawl catches made on the West Coast (mainly deep-water hake) and 60-80% to trawl catches made on the South Coast (mainly shallow-water hake). The balance is made up of various by-catch species many of which are utilised, and on average just over 90% of the catch is retained. The hake deep-sea trawling grounds are widespread on the Cape west coast in waters deeper than 200 metres. On the Cape south coast hake deep-sea trawlers may not fish in water depths of less than 110 metres or within 20 nautical miles of the coast, whichever is the greater distance from the coast, and trawling is focused primarily on two fishing grounds.

The Department manages the hake deep-sea trawl fishery as part of a "*hake collective"*. In terms of the MLRA a "*global*" TAC for hakes (both species combined) is set annually by the Minister of Environmental Affairs and Tourism. Of the global hake TAC a reserve to cover by-

catch in the horse mackerel fishery and, until 2004, 1 000 tons for foreign fishing is set aside prior to distribution among the hake fishing sectors. Currently the global hake TAC (after deduction of the horse mackerel by-catch reserve) is distributed among the deep-sea trawl, inshore trawl, hake lone line and hake hand-line fishery sectors without regard to the hake species split in the respective fishery sectors. In terms of that arrangement, 83% is allocated to deep-sea trawl, 6% to inshore trawl and 10% is shared between hake long-line and hake hand-line. However, a sectoral allocation procedure that takes cognisance of the species taken by that sector and the contribution of that species to the global TAC may have to be developed in order to match hake exploitation to the productivity of the two hake species.

The hake deep-sea trawl fishery is an extremely capital intensive fishery. Existing participants have made substantial investments in vessels as well as processing and marketing infrastructure. The total value of assets in the fishery is estimated to be approximately R2.2 billion. The market value of the landed catch is worth approximately R2 billion annually at current market prices. Although vessels as small as 30 metres in length operate in the fishery, 66 percent of deep-sea trawlers are between 45 metres and 50 metres in length. Fishing trips vary from less than a week to more than 30 days.

2.5.2 Hake Inshore Trawl

Although the inshore trawl fishery was pioneered at the start of the twentieth century, it was only in the 1950's that the fishery took on a commercial face when smaller trawlers entered the fishery to target hakes and the more valuable Agulhas sole (*Austroglossus pectoralis*). The inshore trawl fishery continues as a "dual quota" fishery targeting both shallow-water hake (*Merluccius capensis*) and Agulhas sole.

As was the case with the deep-sea trawl fishery, prior to 1978, the inshore trawl fishery was largely unregulated and participants were not restricted to a maximum catch limit. In 1978, the demersal fishery was formally separated into inshore and offshore sectors, a global annual total allowable catch ("TAC") was introduced and was divided between the sectors. An annual sole TAC was also set. Individual quotas were introduced in 1982. Since then, an annual TAC has been set for both the Cape hakes and for Agulhas sole. The inshore trawl fishery has been managed in terms of a sole TAC and a portion of the hake TAC. The sectoral allocation of the global hake TAC has remained remarkably stable at around 6 percent.

The Department manages the inshore trawl fishery as part of a "*hake collective*". In terms of the MLRA, a "*global*" TAC for all hakes (both species combined) is set annually by the Minister of Environmental Affairs and Tourism. Of the global hake TAC a reserve to cover by-catch in the horse mackerel fishery and, until 2004, 1 000 tons for foreign fishing was set aside prior to distribution among the hake fishing sectors. Currently the global hake TAC (after deduction of the horse mackerel by-catch reserve) is distributed among the deep-sea trawl, inshore trawl, hake lone line and hake hand-line fishery sectors without regard to the hake species split in the respective fishery sectors. In terms of that arrangement, 83% is allocated to deep-sea trawl, 6% to inshore trawl and 10% is shared between hake long-line and hake hand-line. However, a sectoral allocation procedure that takes cognisance of the species taken by that sector and the contribution of that species to the global TAC may have to be developed in order to match hake exploitation to the productivity of the two hake species. In terms of such a procedure, the sectoral allocation of hake to the Inshore Trawl Fishery would be determined only by the status of the shallow-water hake resource.

Inshore trawl grounds are located between Cape Agulhas in the west and the Great Kei River in the east. To protect the inshore areas, vessels operating in the inshore fishery may not exceed 30m and may not use heavy trawl gear. In addition, vessels fishing on deep-sea trawl permits may not operate in water depths of less than 110 metres or within 20 nautical miles of

the coast, whichever is the greater distance from the coast. However, inshore vessels are not restricted from fishing deeper than 110m. Trawling for hake occurs throughout the traditional "inshore" area i.e. in waters shallower than the 110m isobath and on the two offshore fishing grounds. Trawling for Agulhas sole is in water depths of 50-80m, mainly between Mossel Bay and Struisbaai, in areas where the substrate consists of mud/shale. Most of the bays on the South coast are closed to trawling.

The inshore trawl fishery is not as capital intensive as the deep-sea trawl fishery, but significant investments in the form of vessels, processing and marketing infrastructure have nevertheless been made by the existing participants. The total value of the assets in the fishery is estimated to be more than R100 million. The market value of catch landed is worth approximately R60 million annually.

Hake stocks are currently managed according to a conservative strategy. The TAC for hake has been reduced each year since 2003 and further reductions may be necessary.

2.5.3 Horse Mackerel

The southern African subspecies of horse mackerel (*Trachurus trachurus capensis*) is found along the entire South African coast, but the largest concentrations of adult fish are found on the Agulhas Bank, near the continental shelf break. Juveniles occur inshore, mainly on the west coast, where they are caught by the purse-seine fishery during the first quarter of the year.

The South African horse mackerel stock is comparatively small by world standards. The status of the South African stock is still being assessed. For this reason, the horse mackerel fishery is managed in terms of a precautionary maximum catch limit ("PMCL"). The PMCL has fluctuated between 22 000 and 54 000 tons since 1990.

It is important to note that the Cape horse mackerel is highly nomadic. Local availability is variable and dependent on environmental conditions.

The horse mackerel resource is harvested mainly by targeted mid-water trawling but there are substantial targeted and incidental catches in the hake-directed bottom trawl fishery. In addition, juvenile horse mackerel is taken as a by-catch in the purse-seine fishery on the west coast. While generally low, the catch of juveniles by the purse-seine fishery has on occasion been substantial and is currently subject to a strict limit of 5 000 tons per annum.

Management of the horse mackerel resource in South African waters is hampered by a lack of data, particularly the lack of suitable time-series of abundance indices. The most reliable current abundance index is derived from the demersal trawl surveys using bottom trawl gear. However, as this resource is semi-pelagic, this index most likely underestimates the size of the resource. Consequently, the status and productivity of the resource is less well known relative to other South African resources such as hake, sardine and anchovy. The data on horse mackerel are inadequate because the primary research focus of monitoring surveys has been the assessment of established fisheries such as hake and sardine.

The majority of horse mackerel is caught by a single mid-water directed trawler. The majority of horse mackerel is transhipped and exported without landing or processing in South Africa. The fish are exported to West Africa, earning approximately R2.50 per kilogram. The value of the catch is worth approximately R55 million annually.

2.5.4 Large Pelagic (tunas and swordfish)

The availability of tuna and swordfish stocks in South African waters, coupled with a renewed interest in the long-lining of tunas by South Africans convinced the Department in 1997 to grant experimental permits for the long-lining of tunas.

Participants in the experimental fishery consisted of 20 then-existing tuna pole quota holders and 10 then-non tuna pole quota holders.

The objectives for the experimental fishery were to –

- develop a performance history in tuna fishing so that the relevant RFMO's would be more inclined to allocate country quotas to South Africa;
- develop local technological and fishing expertise in the tuna long-lining industry; and
- collect biological and fisheries data in order to provide a scientific basis for the management of a **South African** commercial large pelagic fishery.

The experimental fishery has demonstrated that South African participants in the fishery are capable of adequately catching swordfish. However, there is a particular need to develop a performance history for the harvesting of tunas.

The commercial shark long-line fishery, tuna pole fishery, hand-line fisheries and the recreational sector all catch tuna as a target species or as a by-catch. The tunas caught by these sectors are mostly long-fin (albacore) and yellow-fin tuna. The shark long-line fishery is restricted in terms of permit conditions to a tuna by-catch of 10% (by weight) of their total catch of the target species. Commercial traditional hand-line vessels and recreational fishers are restricted by bag limits.

The purpose of allocating commercial fishing rights in a tuna and swordfish long-line fishery is to establish an economically and environmentally sustainable South African commercial large pelagic long-line fishery, which will include pelagic sharks caught by long-line. The objectives of allocating such commercial large pelagic long-line fishing rights are the following:

- **Consolidation of fisheries targeting large pelagic species**

  It is a policy objective to consolidate all commercial large pelagic long-line fisheries, including the existing pelagic shark long-line fishery. The commercial harvesting of pelagic sharks by the existing shark long-line fishery will not be allowed subsequent to 31 December 2005. Instead, right holders in the commercial shark long-line fishery who intend to harvest pelagic sharks should apply for a commercial large pelagic right in terms of this policy to target tunas and swordfish. A pelagic shark by-catch will be permitted. The targeting of pelagic sharks will not be permitted with effect from 1 January 2006. The targeting of demersal sharks using long-lines will be unaffected by this policy and will continue as a separate commercial fishery.

- **A South African Large Pelagic Long-line Fishery**

  A fundamental objective of this policy and the allocation of commercial large pelagic long-line fishing rights is the allocation of rights to South African persons[13]. This policy objective does not preclude non-South Africans from entering into joint ventures with South Africans.

[13] For a definition of *South African person* see section 1 of the Marine Living Resources Act, 18 of 1998.

- **Catch database**

  Stocks of highly migratory species, such as swordfish and tunas are managed by RFMO's. Country allocations are based on various criteria, the most important being catch history. Accordingly, a key policy objective is to allocate rights to develop a South African catch record, particularly for tuna, that would entitle South Africa to a larger share of the available country allocations.

2.5.5 Small Pelagic (sardines and anchovies)

The small pelagic fishery dates back to the late 1940's when a fleet of privately owned purse-seine vessels began targeting sardine and horse mackerel. In 1953 an annual maximum catch limit of 270 000 tons was set but was never enforced. As a result, catches regularly exceeded this figure. By 1961, the maximum limit was repealed. In 1962, more than 410 000 tons of sardine were landed, but by 1966, the catch had dropped to 100 000 tons. The fleet then started targeting anchovy, using nets with a smaller mesh size. In 1987 anchovy catches peaked at 600 000 tons, but catches declined thereafter and in 1996 only 40 000 tons of anchovy were landed. Anchovy and sardine catches have subsequently increased, with landings of both species averaging around 250 000t each over the past five years. The fishery is currently managed in terms of an Operational Management Procedure ("OMP") that sets annual Total Allowable Catches ("TAC") for anchovy and sardine.

In terms of catch volumes, the small pelagic fishery remains the largest in South Africa. It is the second most important in terms of value. This fishery's management procedure is the most complex of the commercial fisheries. Two species are the main targets, namely sardine (*Sardinops sagax)* and anchovy (*Engraulis encrasicolus)*, with associated by-catch species being red-eye round herring (*Etrumeus whiteheadii*) and Cape horse-mackerel (*Trachurus trachurus capensis*). Sardines are canned for human consumption while anchovy and most of the by-catch species are reduced to fishmeal, fish oil and fish paste.

Small pelagic targeting occurs inshore, primarily along the Western Cape's west and south coasts (anchovy and sardine) and the Eastern Cape coast (sardine).

The pelagic fleet consists of wooden, GRP and steel hulled purse-seine vessels, ranging in length from 15 metres to 30 metres. The industry employs approximately 7 800 people. Of these, 5 300 are employed on a permanent basis and 2 500 on a seasonal basis. The average annual income of sea-going workers is R94 000 – the highest in the fishing industry. Ninety-five percent of workers in this fishery are historically disadvantaged persons. The value of fish landed is presently worth approximately R800 million per annum. The market value of the 106 vessels operating in this fishery is more than R600 million (the average vessel is worth R 7 million). The fishery is capital intensive, with right-holders having to invest in vessels and processing and marketing infrastructure, or gain access to such through catching and processing agreements.

2.5.6 West coast rock lobster

West coast rock lobsters (*Jasus lalandii*) are slow-growing long-lived animals. Female size at maturity varies and ranges from 57 millimetres carapace length (CL) to 66 millimetres CL. Male lobsters attain a larger size and grow faster than females. As a result of the size limit of 75 mm CL that is imposed on commercial fishers, male lobsters make up 90 to 99 percent of the catch.

West Coast rock lobster occur inshore (<200m depth) from just north of Walvis Bay in Namibia to East London, on the east coast of South Africa. Commercial exploitation occurs from about 25°S in Namibia to Gansbaai in the Western Cape Province of South Africa.

However, recreational fishing extends further eastwards to Mossel Bay, on the south coast of the Western Cape Province.

The current harvestable biomass is estimated at around eight percent of the pre-exploitation levels and spawning biomass at approximately 21 percent. This decline is largely a result of two effects: large unsustainable catches taken particularly during the first half of the 20th century and a substantial reduction in the somatic growth rate during the 1990's.

Commercial fishing began in the 1880's. The commercial fishery expanded rapidly in the early part of the 20th century. Although catch records prior to 1940 are sparse, catches appear to have peaked in the period 1950 to 1965, when between 13 000 and 16 000 tons were landed annually.

Prior to 1946, the commercial fishery was unregulated. In that year, a tail-mass production quota was imposed to control exports. This formed the basis of the "output-controlled" management philosophy that is still employed in the management of the west coast rock lobster resource today.

From 1946 onwards, annual quotas were granted, based primarily on the performance of the fishery in the preceding season. Until the mid-1960's, catches were directly controlled by these quotas. In the 1967/68 fishing season, catch rates began to decline and quotas could not be filled. Decreases in the Total Allowable Catch ("TAC") to between 4 000 and 6 000 tons restored some balance in the period 1970/71 to 1989/90.

The tail-mass production quota was replaced by a whole lobster (landed mass) quota, and management by means of a TAC was introduced in the early 1980's. Area or zonal allocations were introduced at the same time. Other management measures that were enforced early on were size limits and a closed season. Catches of berried or soft-shelled lobsters were banned. The 1990/91 season again saw the catch rates drop and, in the ensuing years, the commercial TAC was gradually reduced, reaching 1 500 tons in the 1995/96 season. Since then, there has been a slow recovery, with the commercial TAC being set at 3 527 tons for the 2004/2005 season.

Prior to the introduction of lobster traps in the 1960's, the commercial fishery depended almost exclusively on hand-hauled, hoop-nets, which are light and easy to deploy from small boats in shallow waters. Hoop-nets are seldom used at depths exceeding 30 metres. Hoop-net dinghies may either operate independently from the shore by means of an outboard motor or oars, or be transported to the fishing grounds by means of a motorised mother vessel (deck boat).

The west coast rock lobster fishery is made up of two distinct sectors: a commercial fishery and a recreational fishery. Recreational users may only fish using hoop-nets from a boat or the shore, or practice breath-hold diving or poling from the shore. Recreational fishers may not sell their catch.

The commercial sector consists of large-scale offshore operators (right allocations of more than 1.5 tons) and a more limited near-shore component (right allocations of less than 1.5 tons). In the near-shore sector, right-holders may only use hoop-nets and may not move between areas.

The near-shore commercial sector (or limited commercial fishery) replaced the subsistence fishery in 2001 as a result of the findings and recommendations of an independent review of subsistence fishing in South Africa. The review recommended that high-value subsistence fisheries such as west coast rock lobster, traditional line fish and abalone should be

commercialised. The commercialisation of these fisheries has permitted fishers to sell and market their products.

The Department allocates 20 percent of the west coast rock lobster TAC to the near-shore fishery and 80 percent to the offshore fishery. The reason for this split is that approximately 20 percent of the resource is located in the inshore region, while 80 percent is located offshore in deeper waters.

The offshore fishery supports some 5500 employees, 95 percent of whom are black. Of these, more than 2500 are sea-going personnel, with the remainder employed in processing and marketing operations on land. West coast rock lobster fishing takes place between November and July and the average annual income over this period is R26 500. The annual value of west coast rock lobster catches is approximately R200 million. The approximate value of vessels in this fishery is R130 million.

2.6.7 Traditional line fishery

The origins of the South African boat-based line fishery can be traced back to the fishing activities of European seafarers in the 1500s. The Dutch colonised the Cape in 1652, but because of various restrictions, the fishery was slow to develop despite an abundance of fish. When the British captured the Cape Colony in 1795, all fishing restrictions were removed, and by the mid-1800s the commercial line fishery had become a thriving industry. The next spurt in the growth of the fishery occurred after the Second World War when both fishing effort and line fish catches increased substantially as a result of the simultaneous introduction of motorised vessels, the construction of small boat harbours along the coast and the availability of echo-sounding technology.

In spite of the 200 year history of the fishery, the basic life histories of many species have only recently been described. The first attempts at managing line fish resources were marked by the introduction of minimum size limits for selected species in 1940. However, the absence of life-history information about line fish stocks meant that these regulations were determined on a fairly arbitrary basis. As a result of growing concerns for the line fish resources, biological studies on a few important species (e.g. *seventy-four, hottentot, carpenter*) were initiated in the 1960's. With the exception of a closed season for elf in KwaZulu-Natal, and *snoek* in the Cape, no other restrictions were promulgated until a comprehensive management framework was introduced for the line fishery in early 1985.

The 1985 management framework included revised minimum size limits, daily bag limits, closed seasons, commercial fishing bans for certain species and the capping of the commercial effort at the 1984 level. Owing to a lack of biological and fisheries data, the level of protection afforded to each species depended largely on qualitative indications of its vulnerability to exploitation, rather than on quantitative evaluations. Furthermore, the absence of clear management guidelines and the existence of strong lobby groups resulted in considerable compromise between managers and fishers regarding the implementation of management action for certain species.

The South African line fishery is a multi-user, multi-species fishery consisting of approximately 200 species of which 95 contribute significantly to commercial and recreational catches. The user groups may be broadly divided into recreational, commercial and subsistence components. The recreational component consists of approximately 450 000 users and may be divided into estuarine anglers, who fish from boats or river banks, rock and surf anglers and a recreational ski-boat sector which operates in a similar environment to the commercial component. The subsistence sector is a new component, which was first recognised by the MLRA. The subsistence sector exists along the east coast, from the Eastern Cape to Northern KwaZulu–Natal and comprises shore-based and estuarine fishing

activity. Due to high operating costs, the subsistence sector does not include a boat-based fishery. This policy concerns the commercial fishery only.

The traditional line fishery is a boat-based activity and currently consists of 3 450 crew operating from about 450 commercial vessels of between 4.5m and 15m in length. The crew use hand line or rod-and-reel to target approximately 200 species of marine fish along the full 3000 km coastline, of which 50 species may be regarded as economically important. To distinguish between line fishing and long lining, line fishers are restricted to a maximum of 10 hooks per line. Target species include resident reef-fish, coastal migrants and nomadic species. Annual catches prior to the reduction of the commercial effort were estimated at 16000 tons for the traditional commercial line fishery. Almost all of the traditional line fish catch is consumed locally.

Owing to the large number of users, launch sites, species targeted and the operational range, the line fishery is managed in terms of a total applied effort ("TAE"), bag limits for species, closed areas, limitations of the gear used and restraints on the trade of collapsed and over-exploited species.

Geographically, line fishing takes place from Port Nolloth on the west coast to Richards Bay on the east coast. The fishery is not capital intensive and is exceptionally traditional in nature with fisher families having participated, in many instances, for generations and centuries. The fishery is characterised by insecure labour relations, including the *ad hoc* employment of crew.

Stock assessments conducted since the mid 1980's have revealed that with the exception of fast growing species, such as *snoek* and *yellowtail*, most commercially exploited traditional line fishes have been depleted to dangerously low levels. As a result productivity and hence annual catch are much lower than they could be; with obvious ramifications for job creation, tourism and conservation. Apart from these losses, the risk of stock collapse and commercial extinction, as has occurred for *seventy-four*, is extremely high.

Responding to the poor status of most traditional line fish resources, the Minister declared an environmental emergency in the traditional line fishery in December 2000. In terms of the emergency, the Minister determined that no more than 3450 persons may fish commercially for traditional line fish. The TAE allocated to the traditional commercial line fishery is an attempt to stabilise the declining trends in the fishery and then re-build over-exploited species.

Given their long life span and complex life histories and continuing fishing pressures, it is unlikely that significant positive changes will occur within a decade. During the World Summit on Sustainable Development ("WSSD"), countries undertook to maintain or rebuild fish stocks to levels that can produce the maximum sustainable yields. The goal is to be achieved on an urgent basis for depleted stocks, and if possible, by not later than 2015.

2.5.8 High seas fishing: Patagonian Tooth fishery

Patagonian toothfish, also known as Chilean sea bass, is a deep-water, demersal species which is found on sub-Antarctic continental shelves down to 3 000 metres. Several countries can lay claim to Patagonian toothfish that occur within the exclusive economic zones ("EEZ's") of Chile, Argentina and many other countries with sovereignty over the southern Ocean islands. South Africa's EEZ around the Prince Edward Islands ("PEI") is a prime fishing ground for Patagonian toothfish. Much of the range of Patagonian toothfish falls within the high seas.

Patagonian toothfish live for over 50 years and reach a length of over two metres. Maturity is attained between six and nine years of age, equivalent to a length range of 70 to 95 centimetres. Spawning occurs on continental shelves in winter, but eggs only hatch in spring.

Global catches of Patagonian toothfish have declined sharply since the origins of the fishery in the late 1980s. A combination of its high value, late maturity and occurrence in the high seas has caused the near-collapse of the fishery, which has seen unprecedented levels of illegal, unregulated and unreported ("IUU") fishing. South Africa's waters around the Prince Edward Islands were extensively targeted and the Commission for the Conservation of Antarctic Marine Living Resources ("CCAMLR") estimates that as much as 32 000 tons of toothfish, with a value of US$100 million was illegally fished from the PEI-EEZ between 1996 and 1998. Patagonian toothfish are caught by trawl and by long-line. The latter method has had a disastrous impact on seabirds, particularly albatross and petrels.

The harvesting of Patagonian toothfish has been authorised by South Africa since 1996. Following the promulgation of the Marine Living Resources Act in 1998, the fishery has been regulated as an experimental fishery under section 83.

In 1996, the Department of Environmental Affairs and Tourism issued five experimental permits (under the Sea Fisheries Act of 1988) for the harvesting of Patagonian toothfish within the EEZ of the Prince Edward Islands ("the PEI-EEZ"). Since then, the Minister of Environmental Affairs and Tourism has set annual total allowable catches ("TAC") for this fishery. The TAC for the 1996/1997 fishing season was set at 3000 tons. However, the TAC for the experimental toothfish fishery has declined steadily and was set at 500 tons for the 2003/2004 fishing season.

The Prince Edward Islands are situated within the jurisdiction of the CCAMLR Convention Area. South Africa is a founding member of CCAMLR, which is the regional fishery management organisation tasked with primarily monitoring and allocating catching rights for Patagonian toothfish in Antarctic waters. Patagonian toothfish have been targeted by poachers as toothfish is a sought after white fish on Asian and North American markets. Patagonian toothfish is a high value white fish that fetches prices as high as US$13 000 per ton. The fish's high value has contributed to the high levels of IUU fishing in the fishery.

Poaching in the PEI-EEZ has been brought under control. The fishery remains commercially sustainable provided that it is effectively regulated with participants in terms of the Guidelines determined by CCAMLR. The Department has decided to allocate long-term commercial fishing rights in this fishery.

The fishery is a high-risk, extremely capital-intensive fishery that requires right-holders to make substantial investments in vessels, gear, research and marketing. Start-up costs would require a capital investment of several million rand and operational costs are substantial.

2.6 Fisheries Compliance

The management of fisheries and the allocation of fishing rights cannot however occur without compliance. South African fisheries compliance was at its zenith during 2004[14]. South Africa has at its disposal a range of compliance tools, a comprehensive monitoring, control and surveillance strategy, state of the art inshore and offshore patrol vessels, dedicated and well-trained enforcement officers, vessel monitoring systems, coordinated enforcement amongst all enforcement agencies and dedicated environmental courts with "green" magistrates and prosecutors.

[14] A change of management occurred at Marine and Coastal Management in March 2005. Fisheries compliance appears to have been most adversely affected with reported incidences of abalone poaching – traditionally used as the bench mark for general compliance measuring – rocketing from 1 incident a week on average to between 20 and 32 a week.

The Strategic Plan for Monitoring, Control & Surveillance[15] outlines opportunities to achieve optimal levels of compliance. This is best achieved by maximising voluntary compliance and to create effective deterrence against illegal activities. It also provides a framework for co-management with all fisheries stakeholders to work together to achieve the goals and objectives of the Strategic Plan. Compliance with the Marine Living Resources Act, 1998 and the Regulations promulgated in terms of the Act is essential to maintain the integrity of the systems that manage fisheries and is thus critical to achieve sustainability.

The Department is responsible for the functions that influence the compliance behaviour of fishers and all fisheries stakeholders, through:

- Provision of a regulatory environment and policy advice on legislation;
- Education and liaison services;
- Administration of statutory processes and systems, and
- Enforcement services, including detection and prosecution services.

The Department considers optimal levels of Compliance to be that which holds non-compliance at an acceptable level, which can be maintained at a reasonable cost for enforcement services while not compromising the integrity and sustainability of the marine resources. South African fisheries compliance is managed with the following objectives in mind:

- Integration of compliance information into fisheries management systems.
- Provide efficient human resource services through a productive and supportive work environment taking due consideration of Transformation.
- Ensure that compliance staff is provided with cost-effective, easy access to all information to assist in meeting compliance objectives.
- Improve the financial management system to ensure accountability of compliance services.
- Enhance and formalise strategic alliances with other law enforcement agencies, provincial and local authorities and local communities.
- Formalise alliances with international and regional fisheries management organisations.

These objectives are further underpinned by two strategic goals:

Maximising Voluntary Compliance: Where the rationale for maximising voluntary compliance require stakeholders to:

- be involved, understand and accept the rules;
- accept the responsibilities of being fisheries stakeholders;
- be involved in developing compliance strategies; and
- believe the rules are administered fairly and reasonably.

The Strategies for maximising voluntary compliance are the following:

[15] This plan was valid as at 30 March 2005. There does not appear to be an amended plan.

- Promote high levels of understanding and acceptance of fisheries laws through education, information and advice to fisheries stakeholders.
- Involving stakeholders in developing the legislative framework.
- Establish a shared vision for compliance services by involving stakeholders in compliance planning.
- Co-management framework to manage fisheries together with stakeholders.
- High levels of compliance will be achieved when fishers perceive that the costs of compliance are reasonable.
- Measuring the effectiveness of voluntary compliance.

Effective Deterrence: Where the rationale for effective deterrence requires people to believe that if they perform illegal activities:

- there is a reasonable chance of being caught;
- there is a high probability of being successfully prosecuted; and
- the cost of performing an illegal activity outweigh the benefits.

The strategies for achieving effective deterrence are the following:

- Increase the probability of offenders being caught by effective monitoring, control and surveillance.
- Implementing risk management principles.
- Targeting high-risk offenders.
- Improving the efficiency of the legal framework to deter offenders.
- Effectively communicate enforcement outcomes to deter potential offenders.
- Evaluate and review the effectiveness of compliance programs.

Domestically, South Africa's MCS strategy is therefore premised on the dual strategies of prevention and deterrence. With respect to engaging in fisheries compliance within the regional and international spheres, South Africa views the following as the basis of its co-operation:

- Ensuring compliance with international conservation measures by SA and foreign vessels entering SA EEZ and harbours;
- Implementing the conservation measures of Regional Fishery Management Organisations, such as ICCAT, CCSBT, IOTC and CCAMLR;
- Cooperating with SADC coastal states regarding marine compliance and harmonisation of the import and export procedures of marine products;
- Participating in SADC MCS Training programmes;
- Participating in international and regional MCS enforcement exercises.

2.7 Funding Fisheries Management

South Africa's costs associated with the regulation of fishing (administration, management, research and compliance) are overwhelmingly funded by the South African fishing industry. In fact some 86% of costs are recovered from the industry, with the balance being provided by the national *Fiscus*.

Funding for fisheries management in South Africa is managed by means of a marine living resources fund, established under the Marine Living Resources Act, 1998. The Fund is a legal entity in its own right and is managed by a chief financial officer who reports to the DDG of Marine and Coastal Management.

The budget for the Marine and Coastal Management has steadily increased each year over the past five years and is currently at approximately R400 million rand, excluding staffing and capital expenditure. MCM's insured assets value is slightly less than R1 billion, and includes 4 state of the art fishery patrol vessels, 2 research vessels and research and aquaculture facilities.

The largest contributors to the operational budget of R400 million are monies derived from levies for commercial fish landed, sales of confiscated fish and forfeited assets and the sale of recreational fishing permits, such as for west coast rock lobster, line fish and game fish (such as marlins).

South Africa is however currently in the process of reviewing its outdated system of charging and collecting levies from commercial fish landings. The intention is to ensure that progressively the fishing industry contributes even further funds to increase the quality of fisheries research, compliance and management, which necessarily includes administration.

However, the answer may not be simply to increase current levies, but rather to creatively engage with the various industry bodies to determine how to increase the quality of research, compliance and management outside of the confines of the bureaucratic state, which is currently stifling the growth potential of the South African fishing industry.[16]

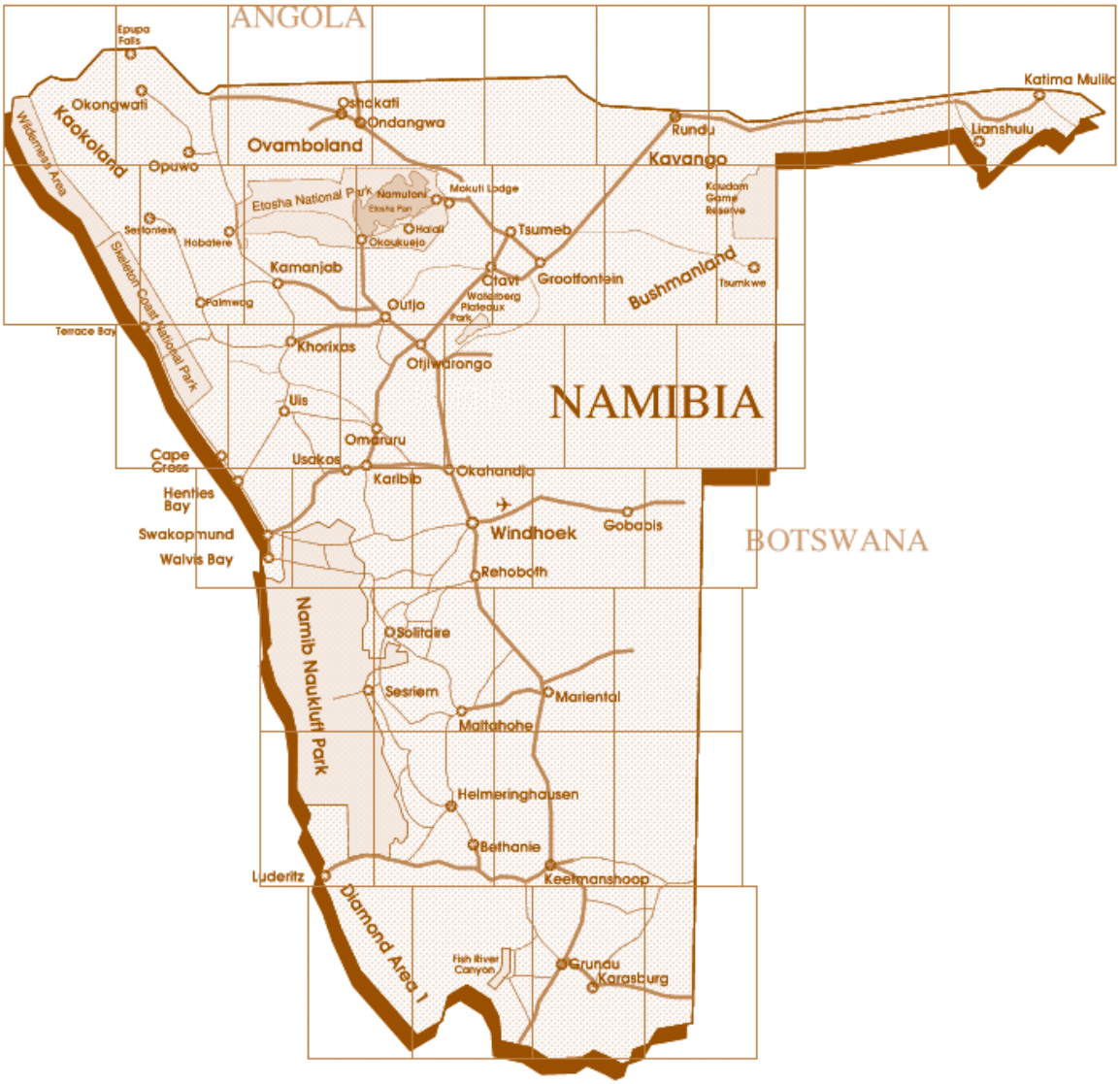
2.8 Conclusion

Although South Africa has put in place a legislative and policy foundation for the management of its fisheries – commercial, subsistence and recreational, the most significant concern is whether it will be able to effectively and efficiently implement these laws and policies. This concern notwithstanding, South Africa's fisheries policies are internationally recognised as groundbreaking. They represent the most substantial detailed codification of fisheries policy anywhere.

Detailed Fishery Management Manuals, intended to guide both the right holder and the fishery manager in managing the commercial fisheries over the next decade and more, will complement the fishery policies discussed in this section. These manuals will not only spell out the management procedures for each fishery but also the detailed operational procedures, *vis-à-vis*, TAC and TAE setting. These manuals require drafting and consultation with the various fishery sectors. Accordingly, in our view, fisheries management in South Africa has just entered its most fascinating and challenging phase ever.

[16] An example of this is the recent cancellation of the critically important hake survey due to bureaucratic obstacles. The result of this will be that as no survey has been undertaken for the first time since TAC's were set, the TAC will have to be drastically cut in terms of the precautionary principle. This cut ironically will most adversely affect the small black owned right holders in the hake fisheries.

3. FISHERIES PROTOCOLS IN NAMIBIA



3.1 Introduction to Fisheries Management

Namibia's coastline is approximately 800 nautical miles (about 1500 km) long. The widest part of Namibia's shelf lies off the Orange River mouth in the south, and off the Cape Cross-Walvis Bay area. The sea off Namibia displays an exceptionally high biological productivity, resulting from the up welling of nutrients caused by the cold Benguela current. Relatively few species make up the bulk of the total commercial fish biomass (i.e. species diversity is low while biological productivity is rich). The pelagic inshore fauna consists of anchovy, pilchard, juvenile horse mackerel and other minor species like red-eye and round-herring. The important, commercial mid-water catches consist of mainly adult horse-mackerel and other species, for example snoek.

Demersal or bottom dwelling species consist of hake, rock lobster, monkfish, deep-sea red crab, pilchard, orange roughy, horse-mackerel, large pelagic fishes and seals. These fisheries are managed by the setting of total allowable catches ("TAC's"). A number of less abundant fish and shellfish are nevertheless economically important and are managed either

by effort control or are landed primarily as by-catches of the target species. Examples include kingklip, snoek, chub mackerel and various line fish species.

During the 1950s and 1960s, two major industrial fisheries were established along Namibia's coast. These comprised of an offshore trawl fishery for hake and a mid-water trawl horse mackerel fishery. These fisheries were primarily exploited by distant water fleets from various (high seas) fishing nations. In addition, an inshore pelagic fishery for anchovy and pilchard was established, which was targeted by a Namibian-based purse seine fleet.

Before the country's independence, responsibility for the management and regulation of Namibia's fisheries (and other marine resources)[17] fell under the responsibility of the South African Administration in Windhoek, for inshore fisheries, and the International Commission for the Southeast Atlantic Fisheries ("ICSEAF") for offshore fisheries.[18] Although ICSEAF's competence and reference area included the seas off Angola and South Africa, in later years its main activities focused on the fisheries and resources off Namibia, as this was one of the few rich fishing areas that had no declared EEZ ("Exclusive Economic Zone"), until Namibia became independent in 1990. This attracted numerous distant water fishing fleets. Regulatory measures implemented by ICSEAF included global TAC's for chub mackerel, horse mackerel and snoek. Country TAC's were allocated for hake stocks, together with inshore trawl prohibition zones, minimum trawl mesh sizes, and maximum percentages of hake by-catches in the horse mackerel targeted fisheries. ICSEAF ceased functioning and was formally disbanded in 1990, following the declaration of Namibia's 200 nautical mile EEZ. After independence, the horse mackerel TAC was partitioned between the purse seine and mid-water trawl fisheries. These fisheries target the juvenile and adult components of the stock, respectively. Trawling beyond the 200-meter isobath is currently prohibited.

3.2 Institutional Arrangements

Namibia's fishing industry is regulated by the Ministry of Fisheries and Marine Resources ("the MFMR"). Its stated mission is to strengthen Namibia's position as a leading fishing nation and contribute towards the achievement of economic, social and conservation goals for the benefit of all Namibians.

Over 20 commercially important fish species are landed using various fishing methods. To prevent overexploitation and to promote economic viability in the industry, the MFMR issues rights of exploitation, fishing vessel licenses, and in some fisheries, TAC's and individual catch quotas. Namibia sets quotas for a diversity of fish including –

- Pilchards
- Hake
- Rock lobster
- Red Crab
- Horse mackerel
- Alfonsino
- Orange roughy
- Monk fish
- Large pelagics
- Mullets
- Seals
- Guano

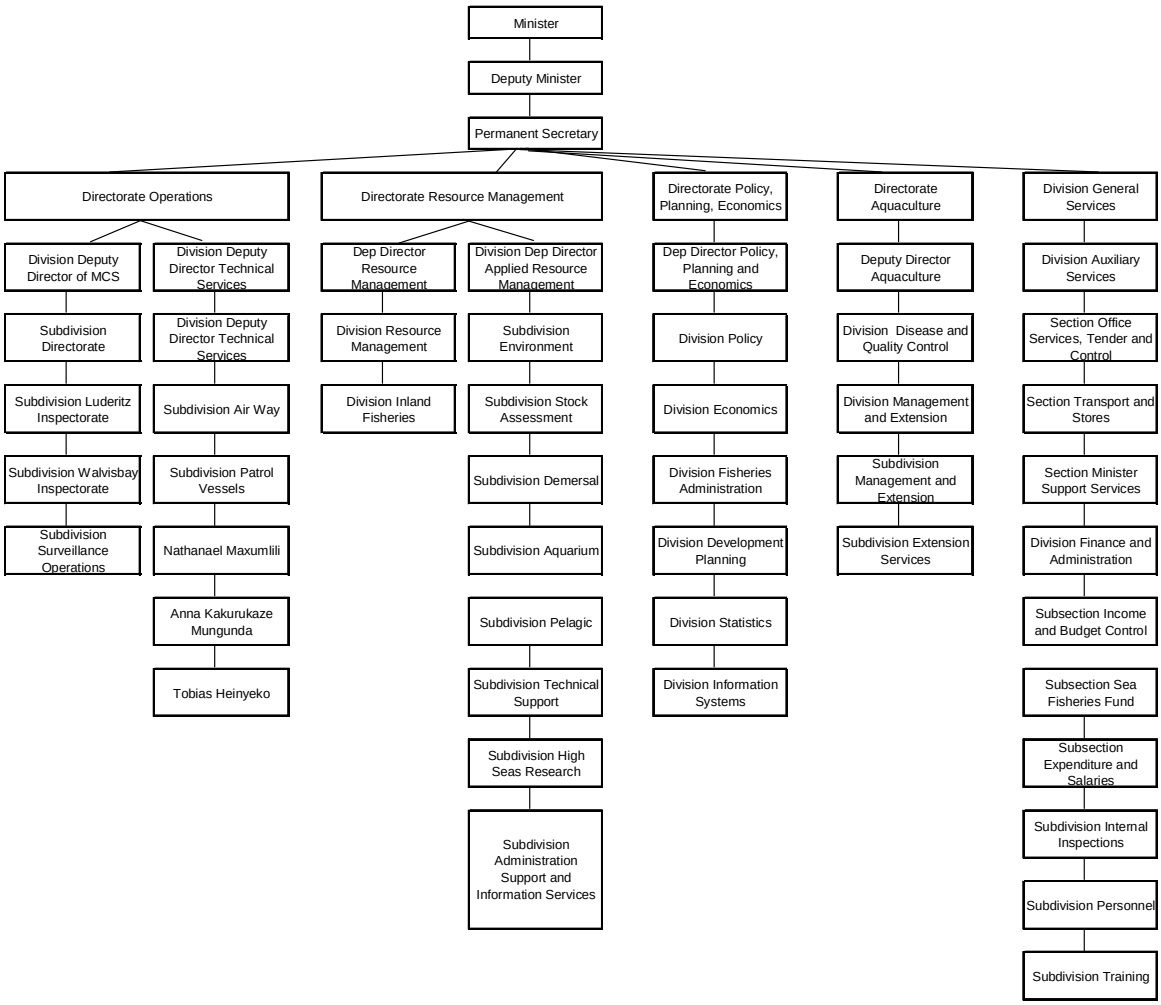
[17] The present Marine Resources Act 27 of 2000 defines marine resources widely as 'all marine organisms, including, but not limited to, plants, vertebrate and invertebrate animals, monerans, protists (including seaweeds), fungi and viruses, and also includes guano and anything naturally derived from or produced by such organisms'.
[18] White Paper of 1991, (as revised), December 2003, p. 3.

- Line fish

The Namibian fishing industry employs between 14 500 and 15 000 persons. The number of Namibians employed as crew has continually increased from 47% in 1996 to 66% in 1998. On-shore workers are predominately Namibian. Of the current 8000 to 8500 workers, at least 95% are Namibian.

The Fisheries sector plays a key role in generating revenue for Namibia. Revenues are generated through various fees and levies. During 2003, Namibia collected more than N$100 million from its fishing industry. During this period some 665 000 tons of fish was landed worth approximately N$3.5 billion to the Namibian economy.

Up until 1998, MFMR was composed of two directorates. The Directorate of Resource Management (DRM) was made responsible for scientific research and advice, while the Directorate of Operations (DOP) was charged with monitoring, control and surveillance responsibilities, as well as initially addressing a range of related functions, primarily of an administrative and economic nature. During 1998, a third Directorate, Policy Planning and Economics (PPE) was added in order to strengthen these functions within MFMR. Currently each of these three directorates is divided into the following divisions, sub-divisions and units, in order to enhance and streamline productivity and efficiency (see Figure below). During 2003, a specialised Aquaculture Directorate was also established and added to the above structure. A General Services Division provides support services. Executive Management is provided by the office of the Permanent Secretary (PS).



The MFMR's *Directorate of Resource Management* ("DRM") is tasked with the following mandate and objectives:

- To provide the scientific advice that informs the fisheries policy on harvesting techniques and activities;
- Develop and review management plans for all important living aquatic resources in an ecosystem context
- Formulate fisheries management plans (FMPs) for all commercial species
- Provide scientific advice to enable the setting of TAC. Annual TAC recommendations are submitted to the Marine Resources Advisory Council and the Minister.
- Advise on the inter-relationship of environmental factors, these affect fish stocks
- Conduct Post-survey dialogue with the concerned fishing industries.
- Regularly meet with the working groups comprising MFMR scientists, industry representatives and other stakeholders
- Monitor the spatial distribution of catches and effort
- Provide quarterly reports
- Provide information for MFMR's annual report
- Provide monthly reports showing the spatial distribution of catch and effort for all commercial fishing sectors
- Provide scientific advice on exploratory fishing rights applications

The two research centres of this directorate are NATMIRC (National Marine Information and Research Centre), based in Swakopmund, and a Freshwater Institute located near Mariental, at the Hardap dam. NATMIRC also has a branch at Luderitz Bay, where regular commercial fish stock surveys and assessments, and research on Cape fur seals, seaweed and rock lobsters are undertaken. The Freshwater Institute focuses on invertebrate and freshwater fish research, the development of aquaculture techniques, assessment of candidate species and the tracking of migrations of freshwater fishes by radio tagging.

The MFMR's *Directorate of Operations* is charged with regulating fisheries sector activities within Namibia's 200 nautical mile EEZ and public inland water bodies.

The *Directorate of Policy, Planning and Economics* is tasked with the development of Namibia's fisheries sector both domestically and internationally, as well as the incorporation of its fisheries administration.[19]

One of the most important stated objectives of this Department is to ensure that fisheries activity in Namibia meaningfully contributes to the country's socio-economic upliftment and development goals. Other purposes include:

- Management of the fees generated by fishing activity
- The administering of fisheries laws and regulations
- Ensuring that Namibia is adequately represented internationally, whilst securing protection of her national fisheries
- Managing, collecting and preparing fishery statistics and information

[19] *Supra*, p. 26

- Creating a conducive environment within which the country's fishing sector can grow and reach its full potential

In the context of fisheries management, it is important to bear in mind that the three key activities of economics, planning and policy were specifically grouped together into this new directorate in the form of a so-called 'business group'[20]. This was a response to the anticipated need and probable events occurring during the ten years following the implementation of this first strategic action plan by MFMR.[21]

Progress and accountability was to be measured by comparing the above operational objectives with the attainment of actual performance targets. The PPE was stated to play a pivotal role in the longer-term performance of the fishing sector and as having a direct bearing on the success of the industry itself and Namibia's emergence as one of the main fishing nations.[22]

Namibia's fisheries regulatory environment is, like South Africa's, managed in terms of a Constitution, fisheries legislation, regulations and policy.

3.3 Fisheries Management

Broadly speaking, Namibia's policy framework can be divided into three areas: Marine fisheries, aquaculture and inland fisheries.

3.3.1 Marine Fisheries

The White Paper policy document, as amended in 2004, has the following title: *Towards Responsible Development of the Fisheries Sector*. As indicated in The BCLME Consortium's report on transformation, this marine fisheries policy rests on the following four-fold implementation strategies:

i) rebuild fish stocks

ii) build a national industry

iii) the implementation of Namibianisation, to ensure that the benefits of rebuilding the fish stocks and introducing a local fishing industry accrue substantively to Namibian citizens, through, *inter alia*: the replacement of foreign labour with Namibian capacity, increased ownership over fishing vessels and companies by Namibian participants, and new job creation through diversification of fish products and markets

iv) Empowerment, to ensure a more equitable distribution of (including high-level) participation in management as well as increased employment for previously disadvantaged Namibians

3.3.2 Inland Fisheries

The 1995 White Paper on *Responsible Management of the Inland Fisheries of Namibia* outlines the policy for inland fisheries in Namibia. These resources are to be managed to ensure long-term food security to the riparian population involved in the management and control of these resources, by exploiting them at optimal levels and on a sustainable basis.[23]

[20] *supra*, p.27
[21] *supra*
[22] *Supra,* p. 29
[23] *MFMR Strategic Plan 2004 – 2008*, p. 9.

Current management strategies for this sector are aimed at achieving a balance between demands placed on Namibia's inland fisheries resource by the various categories of subsistence, tourism, aquaculture and trade in food-aquarium fish species.[24] These are implemented by the regional, central and traditional authorities involved.

3.3.3 Aquaculture

Namibia's aquaculture policy also rests on four different strategies, contained in the following paper: *Towards the Responsible Development of Aquaculture 2001*.[25] The Namibian Government requires aquaculture development in the country to be responsible, sustainable and achieve socio-economic benefits for all Namibian inhabitants. At the same time, it is anticipated that the future development of this discipline will contribute significantly towards the country's food security. The following four strategies make up the policy:

i) Maintain genetic diversity and the integrity of the aquatic ecosystem

ii) Establish appropriate institutional arrangements for aquaculture

iii) Ensure responsible aquaculture production practices

iv) Establish a legal and administrative framework for aquaculture a system of rights-tenure for commercial enterprises

3.4 Legal Framework

3.4.1 Namibian Constitution

Article 95(1) of the Namibian Constitution of 1990 requires –

> *"…that ecosystems, essential ecological processes and biological diversity are maintained and living natural resource are utilised on a sustainable basis for the benefit of Namibians, both present and future…"*

The overall but fisheries-specific development objectives as they have evolved from the Constitution and been incorporated into the 1991 White Paper which requires the Namibian government –

> "*To utilise the country's fisheries resources on a sustainable basis and to develop industries based on them in a way that ensures their lasting contribution to the country's economy and overall development objectives."*

Two significant goals become apparent from this overarching objective; firstly, the need to effectively address the detrimental depletion of several species that took place before independence and to rebuild these stocks to their 'full potential'. Secondly, the policy aims to maximise the benefits for Namibians from the fisheries sector, both in the processing and harvesting branches of the fisheries industry. This is to be achieved by increasing the employment of Namibians in both branches through the development of service and support industries, like boat-building, canning production, production of other inputs for the processing industries (like retail outlets and packaging) and the establishment of distribution and marketing networks.

[24] *Supra*

[25] In addition, Namibia has its own aquaculture strategic plan that is in the process of being developed. Pers. Comm. Bronwen Currie, Chief Biologist, Disease and Quality Control, Aquaculture Directorate, MFMR.

3.4.2 National Legislation

Each of the three sectors (Marine & Inland fisheries, and Aquaculture) has its own, stand-alone legal framework. The Sea Fisheries Act, 29 of 1992, established the fisheries management system that is still applied and maintained today. The key elements of this system consist of the allocation of fishing rights and setting TAC's based on research. The Marine Resources Act, 27 of 2000, replaced the Sea Fisheries Act during 2000. It incorporates international best practice for the management of the marine capture fisheries. It also incorporates key elements of the international fisheries management instruments to which Namibia is party.[26] Regulations promulgated in terms of Namibia's Marine Resources Act ("MRA") establish the terms and conditions for all vessels and fishermen operating in Namibia's EEZ.

The Inland Fisheries Resource Act, 1 of 2003, provides for the development and management of inland fisheries. This recent piece of legislation has shifted the management emphasis from general services more towards conservation and law enforcement.[27] This has resulted in significant overlap with the other Ministries involved in conversation and rural development.

Namibia's Aquaculture Act, 18 of 2002, provides for responsible and sustainable development of aquaculture against a backdrop of important national socio-economic developmental aims. This includes environmental safety measures, consumer health and safety measures, requisite procedures for obtaining aquaculture concessions, monitoring, regulatory and marketing provisions.

As the Namibian Government treats aquaculture issues separately from general fishery issues, the MFMR has developed different policy papers ('White Papers') for the development and management of marine resources, inland fisheries and aquaculture.

3.4.3 International Instruments and Legal Obligations

Namibia is a signatory to important, international treaties like UNCLOS and the 1995 Straddling Stocks Convention[28], in addition to other soft law instruments like the 1995 FAO International Code of Conduct for Responsible Fisheries and the 1993 FAO Agreement to Promote Compliance with Conservation Measures on the High Seas.[29]

Other regional and international fisheries organisations and bodies with which Namibia co-operates on a strong membership basis include the following:

- The **SADC Fisheries Protocol**, which is now legally in force but which needs to be implemented urgently, for the advancement of the fisheries sectors throughout its members.
- The **SEAFO** (South-East Atlantic Fisheries Organization)[30] establishes a management regime for the conservation and sustainable utilisation of fish, molluscs, crustaceans and other sedentary species in the high seas portion of FAO statistical Area 47. It excluding those sedentary species that are subject to the fishery jurisdiction of coastal States, as well as tuna and tuna-like species, as these fall under

[26] Iyambo, I. (2003) Preface to Namibia's Revised Fisheries Policy: *Towards Responsible Development and Management of the Marine Resources Sector*, as presented to Cabinet.
[27] *Supra*, p. 10.
[28] Otherwise referred to as the UN Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, *34, ILM 1542; (1995) 6 RECIEL 841.,*
[29] *ILM (1994) 969 B&B Docs, 645.*
[30] Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean, signed on by the three BCLME countries on 20 April 2001, and entered into force on 13 April 2003.

ICCAT's[31] jurisdiction. Namibia is currently acting as the Interim Secretariat and is in the process of establishing the permanent secretariat.

- **BENEFIT** (Benguela Environment Fisheries Interaction and Training Programme) has set up a research framework for biological and oceanographic investigation of the Benguela region. Capacity-building and training of researchers in the area are one of the focal points hereof.
- The **BCLME** programme (of which this report forms part), is currently evolving towards the establishment of a management-orientated, (interim) Benguela Current Commission, in order to ensure the continuity of this large-marine-ecosystem initiative, once the UN-funded programme ends in 2007. Beginning with more of a focus on important, shared fish stocks between the three BCLME countries, this Commission is intended, eventually, to manage the sustainable utilisation and protection of the entire Benguela ecosystem (living and non-living resources).
- **International Commission for the Conservation of Atlantic Tunas (ICCAT)**: Namibia became the 28th member of this Commission in 1999, as her thriving domestic tuna industry was rapidly evolving. Amongst others, this commission has been developing comprehensive management tools in what is rapidly becoming a global battle against IUU (illegal, unreported and unregulated) fishing, with this specific initiative focusing on the fishing activity in the Atlantic Ocean.

3.5 Sector Specific Policies

A brief overview of Namibia's main commercial fishing sectors follows, together with a summary of current management measures adopted in respect of each fishery. In addition, this section addresses the sector-specific management measures adopted in respect of each fishery and the scientific reasons and rationale on which these management measures are based and adapted.

In the context of marine resource management, the Namibian Government's main objective at independence was based on three strategies: rebuild the country's over-exploited and depleted fisheries resources to maximum sustainable levels, maintain existing stocks in healthy condition and explore the development of new fisheries. Consequently, an over-arching policy of developing a national fishery sector was adopted by Government. Existing catch levels were thus reduced over time.

Presently, management plans (that include biological reference points) are being developed for all stocks.[32] In the process of setting TAC's and allocating individual quotas, different stock assessment models are being tried, tested, adapted and refined for future use.

3.5.1 Hake

Immediately following Namibia's independence, the hake TAC was drastically reduced for 1990 and 1991, in order to allow this lucrative resource to recover. Since 1992, this TAC has slowly been adjusted upwards, peaking at 210 000 tons in 2001.

Before independence, Namibia's hake resources were managed by ICSEAF; surveys were undertaken by Spain, and stock assessments were based on commercial data collected by various different member-countries. In these stock assessments, the Virtual Population Analysis and surplus production models were implemented and utilised. Between 1990 and

[31] International Commission for the Conservation of Atlantic Tunas
[32] *supra*

1996, hake TAC's were recommended and derived from swept area biomass surveys: suggested TAC's were derived by taking 20% of the fishable biomass.

During the next period, from 1997 to 2001, recommended TAC's were derived through so-called Interim Management Procedures ("IMP's"). These IMP's were based on 'trend in abundance'[33] estimates from both surveys and commercial Catch Per Unit Effort ("CPUE") estimates, adjusting the previous year's TAC. From 2002 up to the present, TAC recommendations have been based on an OMP (Operational Management Procedure), on a 'test and refine' basis.

This OMP is based on a constant catch proportion harvesting strategy, coupled with an age-structured production model in the same format as the operating model. Recommendations for the management are made by simultaneously emphasising the biological recovery and optimal annual harvest of the resource. This is implemented in order to develop the industry to its full potential in the long term.

For the OMP, two data points are annually calculated, in order to determine the TAC for the corresponding fishing year. These two data points are the standardised, commercial CPUE from the previous year together with the annual swept-area survey done in January of the present year.[34] Further management measures applied to the hake fisheries are mesh size regulations, area and by-catch restrictions and the implementation of sensitivity devices.

3.5.2 Horse Mackerel

After the pilchard fishery collapsed in the mid-70s, the horse mackerel fishery in turn showed significant growth. Presently, the TAC applied for horse mackerel is divided between the mid-water and purse seine industries. During the past ten years, these landings have made up 59% of all the fish landed in Namibia. Since 1990, the mid-water horse mackerel catches have made up most of the landings in the horse mackerel sector. The TAC's since independence have increased from just over 100 000 tonnes in 1990 – 1991, to 300 000-400 000 tonnes during the late 1990s and early 2000s.

Scientists from the former Soviet Union assessed horse mackerel biomass based on the Virtual Population Analysis method before Namibia's independence in 1990. The same method was continued up to 2001. During the implementation of this VPA model, the management strategy was to keep harvests at or below 30 per cent of the stock's biomass.

From 2002 onwards, an age-structured production approach has been utilised to assess Namibia's horse mackerel stock. This integrates the commercial catch rates (CPUE) of the mid-water fleet, the catch-at-age of commercial landings, and the survey biomass estimates. Annual TAC recommendations are then calculated using the results derived from this model. Recommendations will be made for the establishment and implementation of an OMP in time.

Additional management measures include closed areas, a minimum size limit, a cod-end mesh size limit and by-catch restrictions.

3.5.3 Pilchard

Before 1990, Namibia's pilchard TAC was based on hydro-acoustic survey biomass estimates conducted by South Africa. These survey results were treated as absolute biomass estimates, and approximately 18 % of this biomass was generally given to Walvis Bay-based purse-seine vessels as the TAC.

[33] *supra*
[34] *supra*

Presently, the pilchard stock is managed by the setting of an annual TAC, which is based on recommendations derived from the results of hydro-acoustic surveys conducted in collaboration with the industry. Since independence, these pilchard surveys have been conducted regularly. Currently, two surveys per year are undertaken, usually around October and March. During both surveys, the biomass of fish older than one year is estimated, although the survey in October also assesses the strength of the fish population younger than a year.

Currently an Operational Management Procedure (OMP) for pilchard is being developed, based on a simplified age-structured surplus model. Previously, TAC recommendations consisted of approximately 18 % of available adult stock.[35]

Additional management measures consist of closed seasons and by-catch restrictions, in order to control pilchard-directed catches by the purse seine fleet. A further important management measure is the enforcement of a "no trawl" zone in waters that are shallower than 200 meters. By-catch numbers are also limited.

3.5.4 Rock lobster

The Namibian rock lobster fishery occurs on the inshore, rocky parts of Namibia's coastline, south and north of Luderitz. In the late sixties, these were severely over-exploited, followed by and an even further decline resulting from adverse environmental factors. From 1980 to 1989, catches ranged between 1100 – 2900 tonnes, with an average of around 1700 tonnes. This represents a meagre 20-25 % of the levels achieved in the 1960's (around 7000 – 8000 tonnes).

Presently, Namibia has set seasonal quotas at low levels, to provide for the recovery of this lucrative resource. Due to worrying declines of these stocks during the late 1980s, the TAC was reduced to 100 tonnes in 1992. Since then the biomass has shown constant increases, and the TAC was slowly increased until 2000, when the estimated biomass of the stock reached approximately 3000 tonnes. The TAC for the year was set at 400 tonnes. Since 2000 the biomass has indicated a slight decline and consequently the TAC has not been increased.

The fishable biomass estimate (derived from the *De Lury* model), CPUE and recruitment data are used in the TAC recommendations. Before independence however, 'tag and release' research provided the basis on which recommended TAC lobster numbers were set.

Further management measures for this resource include closed areas & seasons, effort restrictions (limiting the maximum number of traps per vessel to a 100), minimum legal size limits (65 mm carapace length[36]), and prohibitions on landing females with eggs (in berry).

3.5.5 Line-fish Species

Commercial line-fish boats, ski-boat fishermen and rock-and-surf anglers target Namibia's line-fish sector. West coast steenbras and silver kob make up the most important stocks in this regard. Presently, the silver kob biomass is estimated at around 7100 tonnes. Based on this biomass level, it has been estimated that approximately 950 tonnes can be harvested sustainably per year. This amount is almost fully utilised, as approximately 850 tonnes was landed by ski-boats, commercial line fish boats and shore anglers during the past season (2004).

[35] White Paper of 1991, (as revised), December 2003, p 9.
[36] *supra*

The north western coast steenbras biomass is currently estimated at 2000 tonnes. It has been suggested that approximately 280 tonnes per year can be sustainably harvested. The combined landings from shore anglers, ski-boats and commercial line-fish vessels for 2000-2001 amounted to 190 tonnes.

3.5.6 Monkfish

Until 2000, the bottom trawl fishery that targeted monkfish was managed by effort controls. This was implemented by limiting the size, number and horsepower of vessels. A significant proportion (~35%) of monkfish landings are also taken as by-catch in the hake fisheries.

Since 2000, monkfish has been managed by a TAC. Results from an age-structured production model are used to calculate and determine the annual TAC of this resource. This model is initially fitted to a standardised CPUE series[37] as well as survey biomass estimates in two separate assessments. It is then fitted to both abundance indices simultaneously on the assumption that the General Linear Modelling (GLM) standardised CPUE series provides an abundance index.

Additional management measures such as restrictions on cod-end mesh sizes and general trawl bans in waters shallower than 200 metres are also in place.

3.5.7 Orange Roughy and other Deep Sea Resources

In the mid-1990's, the orange roughy were targeted as an exploratory fishery, resulting in catches of about 6300 tonnes by the end of 1995. In 1997 it became a quota-managed fishery, with an initial TAC allocation of 12 000 tonnes. Since then the observed biomass has been drastically depleted, and total landings for the 2002/2003 fishing season amounted to 2200 tonnes. This stock is presently managed on a quota management area (QMA) basis. Individual TAC's are set for each of the individual QMA's, of which there are four. Each QMA measures 50 nautical miles (nm) by 50 nm around a calculated centre of aggregation, which is based on commercial and survey catch data collected up to 1998. The actual area of particular QMA's is larger than 50 nm X 50 nm, as some QMAs have more than one centre of aggregation. By-catch species of the orange roughy fishery consist of three different *Oreo* species, cardinal fish and alfonsino. A separate TAC was set for alfonsino during 1997-1998, with almost 1000 tonnes being caught. It was decided not to allocate another alfonsino TAC for the following fishing season (1998-1999), but to set a trigger level of 2000 tonnes instead. Once this amount is fished in a season, the management of this stock will be reviewed. Total landings of alfonsino for the 2002-2003 season amounted to about 46 tonnes. No TAC's have been set for any *Oreo* species or cardinal fish.

3.5.8 Deep-sea red crab

Since 1973, deep-sea red crab has been exploited off the Namibian coast. Catches peaked in 1983 at 10 000 tons, then fell to 7000 – 8000 tonnes between 1984 and 1986. Currently this resource is commercially exploited in a trap fishery by two vessels, with recent catches recorded at 2000 tonnes.

3.5.9 Mullets

Before independence in 1990, mullet fishing constituted an uncontrolled fishery in Namibia. Presently mullets are managed by means of effort control. A limited number of rights to harvest mullet around the harbour areas of Walvis Bay and Luderitz have been awarded.

[37] *supra*

3.5.10 Anchovy

Anchovy used to be an important stock, as indicated by this stock's landings between 1970 and 1980, ranking forth after hake, pilchard, and horse mackerel. Anchovy has always been managed as a non-quota species. Management measures have included closed seasons between the months of September to January. This stock also constitutes a by-catch species of the purse-seine industry that targets horse mackerel and pilchard.

3.5.11 Other resources (By-catches and non-quota fisheries)

Other species, like *Dentex*, jacopever, sharks and chub mackerel are taken as by-catches of the commercial fisheries. Presently the potential for some of these species to become targeted fisheries is being assessed through the allocation of exploratory fishing rights.

3.6 Fisheries Compliance

Monitoring, Control and Surveillance ("MCS") is commonly referred to as the 'Executive branch'[38] of fisheries management.

The stated objective of Monitoring, Control and Surveillance in Namibia is to regulate fishing activity within the 200 nautical mile Exclusive Economic. More specifically this purpose includes:

- Restricting fishing activity to those entitled to undertake it
- Ensuring that revenue derived from landed fish is correctly calculated
- Ensuring that the fishing activities are conducted within the legal and administrative limits, requirements and guidelines

Initially Namibia's MCS system was based on the operation of fisheries patrol vessels, vehicles and aircraft. The absence of an artisanal sector in Namibia's fisheries makes the monitoring of catches and landings at Namibia's two ports (stationed at Walvis Bay and Luderitz) relatively easy.

MCS issues are addressed in Part VI of Namibia's Marine Resources Act, which prescribes the controls for the harvesting of marine resources in Namibia.

The following is prohibited:

i) Harvesting any marine resources in Namibia or Namibian waters, for commercial purposes, except in terms of a fishing right, exploratory right or fisheries agreement;[39]

ii) In Namibian waters, the use of any vessel, to harvest marine resources for commercial purposes, except in terms of a license;[40]

iii) The harvesting of marine resources, outside of Namibian waters, by a Namibian flag vessel, except under a license; and

iv) The harvesting, by a Namibian flag vessel, of marine resources to which any international agreement applies, unless authorized in terms of a right granted under section 33 of the MRA, or an exploratory right granted in terms of section 34, or a quota granted under section 39.

[38] Refer to SADC EU-funded programme documents and workshop proceedings
[39] Section 32 of Act 27 of 2000
[40] Issued under section 40

Part VIII of the MRA addresses the main management and control measures. This part of the Act contains prohibitions on certain types of fishing gear and method restrictions. Section 47 prevents the use of explosives, drift nets, noxious substances and poison. Subsection 3 of this above section 47 gives the Minister the discretion to prescribe measures for the conservation of marine resources, the control of harvesting these and measures to protect the marine environment. The MRA regulations contain such measures as prescribed by the Minister in terms of this section. Part VI of the regulations specifically stipulates permissible gear to be used for the commercial harvesting of living marine resources. Regulations 5-22 restrict fishing of certain species, the use of specific fishing gear, the entrance and periods of remaining inside marine reserves and the importation of live marine organisms.

Regulations 23 and 24 in Part V of the MRA restrict the dumping of waste and fishing gear in the marine environment. Regulation 31 in Part VII of the MRA governs by-catch landings, and fees payable in respect thereof.

Section 48 requires every right-holder, quota-holder, licensee and holder of any other authorization under the Act to maintain records and furnish the Permanent Secretary (PS) with other prescribed information.

IUU Fishing (illegal, unregulated and unreported fishing) is a well-known problem that occurs across all captive fisheries. It is, however, a growing and dynamic problem, becoming increasingly sophisticated and organized. IUU fishing undermines the sustainability and management of fish resources, penalises responsible fishing, erodes social and economic security and affects food security. To combat this mounting problem, the FAO has provided an international plan of action (IPOA), based upon which participating countries are to establish, publish and implement national plans of action. These national plans of action provide a systematic approach to addressing the problem, as they are intended to prevent, deter and eliminate IUU fishing. The FAO's IPOA is aimed at action on three different levels: globally, by using internationally agreed, market-related measures to discourage the movement of IUU caught fish;[41] regionally, through RFMO's, and nationally through action taken by all states, flag states, coastal states and port states. It is important to note in this respect that of the three BCLME countries, Namibia is the only one with a formalized plan of action.[42] It is important for every country and region to establish and implement its own plan of action to facilitate mobilization against IUU fishing, with the full backing of the law. In the preparation of these national plans of action, the FAO's IPOA can assist according to developing country's needs in terms of legislation reviews, improved data collection, the strengthening of regional institutions and the enhancement of MCS programmes (for example implementing satellite monitoring systems).

3.7 Funding Fisheries Management

Part VIII of the MRA addresses the financial provisions relating to Namibia's fisheries. Section 44 empowers the fisheries Minister, in consultation with the advisory council[43], and with the approval of the Minister of Finance, to determine the fees payable in respect of the harvesting of the country's fish resources.

The basis and calculation of these fees can vary depending on the values and amounts of various species harvested, the level of fishing effort applied or quotas allocated, and the

[41] Doulman, D. A Global Strategy: The FAO International Plan of Action (IPOA) to prevent, deter and eliminate illegal, unregulated and unreported IUU fishing. Abstract presented at a SADC-EU MCS Symposium held in Cape Town, February, 2005.
[42] Following the first, regional training workshop conducted by the FAO in Zimbabwe in November 2003, Namibia and the Seychelles finalized their national plans of action for IUU fishing.
[43] established under section 24 of the Marine Resources Act (MRA)

specific species or area concerned.[44] Anther important factor influencing the level of fees and levies payable by right-holders relates to the degree of Namibianisation. That is, whether the right-holder or applicant is a Namibian citizen, or if a Namibian citizen maintains beneficial control where this concerns a company, and the beneficial control of any vessel concerned.[45]

Once these amounts have been finalised according to the above considerations and procedures, they are presented in the Government Gazette.[46]In addition, sub-sections 44(3) and (4) empower the Minister to impose levies upon the harvesting of any marine resource[47], to be paid into either the Marine Resource Fund or the Fisheries Observer Fund.

The Marine Resource Fund was initially established under the Sea Fisheries Act of 1992[48] as the "Sea Fisheries Fund", and was continued under the MRA[49]. It consists of:

- monies collected as levies as explained above;
- monies appropriated by Parliament for the realisation of the objects of the fund;
- interest on investments;
- monies accruing to this fund from any other source, subject to the approval of both the fisheries and the finance Ministers;
- any interest accruing on investments made into the fund, by the Permanent Secretary, out of monies not required for immediate use, subject to approval of the Finance Minister.[50]

The Marine Resource Fund is used to cover costs related to research, training, education and development of marine resources.

The Fisheries Observer Fund is maintained through levies imposed under section 44, and the same sources as listed in respect of the Marine Resource Fund as indicated above. The Fisheries Observer Agency is a parastatal, with its headquarters stationed in Walvis Bay. Section 7 of the Marine Resources Act provides for the appointment of fisheries observers by the agency, and outlines their functions. Any person commercially harvesting a marine resource may be required by the Minister to carry an observer on board the relevant fishing vessel, or admit a fisheries observer to any land or premises used for such harvesting.[51] Such an observer is entitled to access all records, documents and marine resources found there, and the right holder concerned may be required to provide reasonable accommodation for the observer, as well as allowing the observer the use of all equipment necessary for the performance of observer functions.[52]

The Sea Fisheries Fund was established in order to share research, development and training costs between government and industry.[53] During 1999, this fund accounted for 9% of total expenditure, and provided an essential element to Namibia's fisheries management. This fund was maintained from levies on landed fish, thus unsurprisingly increased according to TAC projections, reaching a peak of N$22,100,000 towards the end of the first planning period.[54]

[44] Section 44(2) of the MRA
[45] Section 33(4) a), b), c).
[46] Section 44(1)
[47] 'Marine Resource' is extremely widely defined as 'all marine organisms, including but not limited to, plants, vertebrate, and invertebrate animals, monerans, protests (including seaweeds), fungi and viruses, and also includes guano and anything naturally derived from or produced by such organisms;
[48] Act No. 29
[49] Section 64
[50] Section 45(2)e) read together with section 45(5) of the MRA.
[51] Section 7 (2)
[52] *supra*
[53] *Supra*, p. 9.
[54] *supra*

Previously, in the early seventies, research fees were only levied on anchovy, pilchard, horse mackerel, monk, kingklip, rock lobster and sole. Since 1992, and in conjunction with the allocation of new fishing rights in 1994, a **Marine Resource Fund levy** has been charged on all species for which harvesting rights are granted. The Minister is empowered to amend these levies, in order to make them more effective. Money from the Marine Resources Fund is used to cover some of the costs related to development, research and training conducted under MFMR.

The actual setting of quota levies involves two separate decisions: first, the basic level of the quota levy, which can be adjusted annually, and secondly, the system of surcharges and rebates. The latter is supposed to be more permanent, although adjustments obviously need to be made periodically, in line with commercial and currency fluctuations.

In determining basic quota levy levels, the following factors are inclusively regarded, although the most important consideration relates to the value of the fish: the profitability of fishing and processing operations, catch rates and other cost structures.[55] Usually the basic level varies between 5 and 15 per cent of the first hand value. On principle, Namibia's policy states that all quota-regulated fisheries should be covered by a levy system, whilst species for which there is free fishing (unsurprisingly) do not require any quota levy imposition.

The volume of fish caught determines the levy charged.[56] This helps to achieve the dual objective of reducing the temptation to under-report catches, as well as making right-holders apply for the quotas they actually hope (and eventually expect) to catch.

On the other hand, if weather (or any other unforeseen, climatic circumstances) makes it impossible for all right-holders to obtain the quotas as granted, the Government may grant extraordinary rebates to those affected.[57]

3.8 Conclusion

The MFMR's long-term vision for Namibia's marine and aquaculture resources has been incorporated in the country's national *Vision 2030* document, as well as the fisheries and marine resources targets articulated in the National Planning Commission's ("NPC") second National Development Plan ("NDP2"). Namibia should fulfil its development objectives by ensuring and facilitating an integrated fishing sector. Present value-adding and processing activities exist for the better-known commercial resources like horse mackerel, hake, pilchard, rock lobster, crab, large pelagic, line-fish, monkfish, orange roughy, seals, seaweed and guano. The allocation of exploratory rights is being used as a tool to test the commercial viability and exploitability of other potential resources. However, the development potential for "new resources" as such is deemed limited, and the real development potential of the marine resource industry is in the value-adding of existing products, development of new products and targeting niche local and export markets. Furthermore, joint ventures by local operators with foreign participants in processing, and the exploitation and marketing of marine resources is encouraged by the Namibian Government.

Namibian fisheries management is however currently facing significant challenges in its hake and small pelagic fisheries. The impacts of Namibia's fishing policies in these two fisheries in particular are currently being felt in South Africa's hake and small pelagic fisheries, particularly with increasingly poor hake catches. Namibia does need to revisit its policies with respect hake and small pelagic fishes in particular, and should it find fault with these

[55] *supra*
[56] *supra*
[57] This has indeed been the case as indicated elsewhere in this document

management plans, Namibia ought to also revisit the management plans applicable to its other commercial species. Namibia, like South Africa, must also address the shortage of fisheries management and research skills at its disposal.

4. FISHERIES PROTOCOLS IN ANGOLA

4.1 Introduction to Fisheries Management in Angola

Angola is divided into seven provinces, with a coastline of approximately 1650 km. From north to south, these provinces are Namibe, Benguela, Cuanza Sul, Luanda, Bengo, Zaire and Cabinda.

From the early nineties, the Angolan Government started actively regulating its fishing industry. An analysis of the Angolan legal system and comprehensive regulatory framework indicates that almost every aspect of the industry is regulated by law. Similarly to the other luzophone countries (such as Mozambique and Brazil), the legal principles have been clearly

enunciated. The courts themselves do not provide much oversight over the industry. Instead, the entire industry is regulated by the Ministry of Fishing. Often, this Ministry is authorised to act upon mere suspicions of breaches of regulations and laws.

Angola's main fishery resources include horse mackerel, *Sardinella spp.*, sardines, shrimps, *Dentex*, lobster, crabs and other tropical demersal species. Fishing is ranked as the third most important industry, behind oil and diamond mining. In addition, it provides an essential source of protein[58] to the country's inhabitants.

Presently, around half the Angolan population is reliant on the fishing industry for their livelihood, with most of these involved in artisanal fishing. For this reason, and in the context of transformation, the present report focuses on Angola's artisanal fishing sector. Furthermore, the artisanal fisheries in Angola are growing fast, becoming an increasingly important part of the economy. For example, between 2001 and 2003, the artisanal sector's national catch increased from 20 % to 40 %.[59] A census conducted by the Institute for the Development of Artisanal Fisheries (the "IPA") during 2003, estimated 4700 artisanal fishing vessels. This demonstrates that between 60 and 65 % of the total Angolan crew is represented by the artisanal sector.[60]

Only 5 % of the total landings are exported, of which prawns are the most important. This includes some high quality fish and lobsters from the artisanal fishery. Within Africa, there is a growing trend towards fishmeal and fish oil exports.

The Ministry of Fisheries is responsible for, *inter alia*, the conservation and protection of marine resources, the identification of species that may be harvested, the development of appropriate fishing plans and conducting scientific research on marine issues. The marine research institute was established by this Ministry to undertake scientific research on marine life and assist in the enforcement of fisheries legislation. The Ministry is also responsible for the administration of the newly promulgated Aquatic Biological Resources Act, which will be considered below.

4.2 Institutional Arrangements

The Angolan fisheries economy is viewed as a significant tool to redress the poverty and marginalisation of poor Angolans. The Angolan government adopted in 2003/2004 a Programme of Government, which put in place a *Poverty Reduction Strategy*.

The Programme of Government prescribes the adoption of sectoral programmes. One of the cornerstones of the programmes for the fisheries and agricultural sectors relates to the provision of food security and adequate access to food. With regard to fisheries, the following programmes are prescribed under the broader rubric of fisheries development:

- the strengthening of surveillance activities;
- effective fisheries management with the intention of increasing total allowable catches in a sustainable way; and
- supporting artisanal fishing in particular.

Angola's fisheries are shared amongst Angolans (whether commercial or subsistence) and foreigners, who exploit the most valuable of the fisheries.

[58] Approximately 50%.
[59] Institute for the Development of Artisanal Fisheries ("IPA").
[60] If one includes inland fisheries, this number increases to 75 %.

Angola's Ministry of Fisheries is a relatively new Institution, established in 2002, following the dissolution of both the Ministries of Fisheries and the Ministry of Urbanism and Environment. Presently, the Ministry of Fisheries (MF) is divided into Consultative Boards, Technical Services, Policy and Administration Services, Executive Central Directorates and Subordinate Institutions.

The Consultative Council is the most senior structure, reporting directly to the Minister. It consists of two vice Ministers, national directors, representatives of provincial government and directors of subordinate Institutions. Fisheries Associations are invited on an annual basis to participate in meetings of the above-mentioned Consultative Council, in order to discuss policy decisions, global fisheries issues and to provide recommendations.

The Management Council is composed in a similar way to the Consultative Council. Its duties include the organisational, planning and control activities of Angola's Fisheries Ministry.

The Policy and Administration bodies of the Ministry are composed at the top level of ministerial (and vice-ministerial) cabinets. The lower hierarchical levels within this structure consist of an Information and Documentation Centre and an International Relations Office, which oversees the regional and international relations of the Ministry.

The technical services division of the Ministry consists of four bodies. The first is a legal office, which participates in negotiations, drafts legal instruments and provides general legal advice on fisheries matters to the Minister. The second body, the General Secretary, provides administrative expertise, including personnel management, public relations, information technology, budgetary and asset control and oversight. The third body, the Office of Studies, Planning and Statistics (GEPE), is tasked with the co-ordination of statistical information, analyses, studies and the preparation of overall policy and strategy. The fourth body, the Office of Inspection, is required to monitor all of the above services in conjunction with the overall functioning of Angola's Fisheries Ministry.

The Fisheries Ministry itself oversees two national directorates: a National Fisheries Directorate (DNP) and a National Surveillance Directorate (DNF). The DNP is mandated to implement fisheries policies, while the DNF is in charge of fisheries enforcement.

Angola's Fisheries Ministry furthermore oversees a set of five subordinate Institutions. These are the Artisanal Fisheries Development Institute (IPA), a Marine Research Institute (IIM), a National Institute for the Support of Fisheries Industries (INAIP), a Fund for the Support of the Development of Fisheries Industries (FADEPA) and Fisheries Schools.

The Technical Council is tasked with advising the Minister on planning matters and the management and organisation of fishing resources. Specifically, the Technical Council is responsible for advising on measures regarding fishing effort, resource potential and an analysis of actions related to species conservation and sectoral development.

The Technical Council invites members of the Fisheries Association to participate in meetings on an annual basis, where they are invited to discuss and present technical measures concerning resource management, together with the Government's institutions and central services.

The new Aquatic Biological Resources Act provides for the establishment of a so-called Council of Integrated Management, which is envisaged to work together with the Technical Council of the Fisheries Ministry. The Council of Integrated Management will allow for the active participation of various stakeholders, such as the Artisanal Fisheries Associations and the Institute for the Development of Artisanal Fisheries. It is foreseen that this Council of Integrated Management will propose measures on the conservation of species, the protection

of the artisanal and subsistence fisheries, and make recommendations regarding the harmonisation of fishing effort and capacity. These recommendations will then be used to define suitable TAC's.

4.3 Angola's Fisheries Regulatory Environment

Angola's fishing regime is regulated in terms of the following laws and decrees (and regulations subsequently promulgated there under):

- Law 20/92 of Fisheries
- Law 21/92 on Internal Waters, the Territorial Sea and the Exclusive Economic Zone
- Decree 2/93 on fines for breaches of fishing laws
- Executive Decree 51/95 to update the fishing license fees
- Executive Decree 33/98 on the regulation and the management of fishing resources in Angolan jurisdictional waters
- Executive Decree 14/99 to approve the regulatory programme of inspection of fishing vessels and fish processing establishments and derivatives
- Executive Decree 13/99 as approval of the sanitary and quality inspection programme for fish products
- Executive Decree 47/98 to provide mechanisms for the regulation and conclusion of freight contracts for fishing vessels
- Executive Decree 10/97 regulating crustacean fisheries
- Executive Decree 17/80 regulating and updating requirements of net-fishing from mechanically propelled fishing vessels
- Executive Decree 2/99 on management measures for fisheries
- Executive Decree 48/98 on the co-ordination of national fisheries resources
- Executive Decree 42/98 to prohibit industrial fishing by foreign vessels within 12 nautical miles of the Angolan coastline
- Dispatch 182/94 concerning fishing crews' insurance contracts
- Undated Executive Decree to implement a vehicle monitoring system (VMS, or SIMAP in Portuguese)
- Executive Decree on the acquisition of any fishing vessel, including any (other) importation and / or modification that requires authorization by the Ministry of Fisheries
- Dispatch 112/96 setting up a register all companies exercising any activities that fall within the jurisdiction of the Ministry of Fisheries

The Law of the Principles for Private Investment of 2003, as well as the Environmental Basic Law of 1999 ("EBI") are both relevant to the regulation of Angola's fisheries. The EBI is a catch-all piece of comprehensive legislation, covering those environmental aspects of fishing that are not provided for in Angola's fishing laws, as well providing a shift away from the nationalist character of the earlier laws.

The laws and decrees that have impacted most significantly on the development of fisheries in Angola will be discussed below within the context of the transformation of Angola's fisheries.

4.3.1 The Angolan Fisheries Act (Lei das Pescas), No. 20/92, of 1992

Angola's Fisheries Act of 5 August 1992 applies to the country's territorial sea, contiguous zone and exclusive economic zone. Its main objective is to control and manage the fishing industry to ensure that fisheries exploitation in Angolan waters is sustainable. Fisheries are primarily regulated by managing fishing capacity and effort, according to plans that are prepared and based on the potentially available and exploitable catch.

From time to time, the Minister of Fisheries issues decrees under the Act, which regulates the industry and are intended to conserve marine resources.

Article 2(1) states that the country's fish stocks are a national asset and that their protection and conservation is a political and economic imperative for the Government. In terms of Article 2(2), the State reserves for itself the right to fish. Article 3(1) defines fishing as the *"…act of capturing or extracting, by any means possible, biological species that normally or mostly live in water."* This extremely wide definition of fishing encompasses any activities that could ultimately result in the capture of fish, including the collection and/or release of equipment intended to attract fish and all operations incidental thereto. Article 3(2) defines these incidental operations as the following:

a) *the transfer of fish or fishing products from or to any vessel;*
b) *the storage, processing or transport f fish or any aquatic organisms captured in sea water on board vessels up to the first off-loading on land or the catch of artisanal fishermen;*
c) *the refuelling or supply of fishing vessels or any other activity providing logistical support to fishing vessels;*
d) *the attempt or preparation of the aforementioned activities.*

Article 11 categorises the different fishing activities into *commercial*, *subsistence*, *sport fishing* or *fishing for scientific research purposes*. Article 7 recognises three types of fishing vessels:

- **Angolan vessels-** These are Angolan-owned fishing vessels that are registered in terms of Angolan legislation.
- **Foreign vessels based in Angola-** These are fishing vessels based in Angola but that fly a foreign flag. These fishing vessels are nonetheless registered under Angolan law.
- **Foreign vessels-** These are fishing vessels that have not been registered in terms of Angolan legislation, but may fish in Angolan waters.

Article 10 empowers the Angolan Government to issue regulatory (fishing) laws by decree, whenever this is deemed necessary to achieve its objectives. Although this function is applicable to all fishing activities across a wide spectrum, paragraph (d) emphasizes the important requirement of employing Angolans onboard foreign fishing vessels. Article 10(f) provides for a special regulatory regime applicable to artisanal and industrial fishers.

4.3.2 The Aquatic Biological Resources Act, 2004

Up until November of 2004, Angola's legal framework was primarily composed of the 1992 Fisheries Law (LP), together with various other policies addressing fisheries management and planning, vessels, companies, surveillance and quality control.

More recently however, Angola's national authorities have acknowledged that the existing legislation was outdated, did not adequately reflect regional and international developments

in the sector and tended to be incoherent and contradictory in some instances, due to the operation and implementation of various autonomous and unrelated laws and regulations.

Thus the new '*Lei dos Reicursos Biologicos Aquaticos*' was drafted in 2003, representing a full revision of Angola's fisheries legislation.[61] This updated law sets up new principles and provisions regarding the sustainable management of Angola's aquatic resources, and reflects both regional and international developments in the fisheries sector. These include the important requirement of integrating the management of Angola's marine resources with its other national policies. This new Act was approved by Parliament on 23 June 2004.

This new Aquatic Biological Resources Act provides a comprehensive set of laws, reflecting the Government's policies towards the sustainable use of natural resources and environmental protection. In an integrated and inclusive fashion, it draws on Angola's Environmental Framework Act, Constitutional Law and legislation that promotes Angolan business. This Act takes account of Angola's obligations in the international arena, under instruments like the SADC Fisheries Protocol, the United Nations Convention on the Law of the Sea (UNCLOS) and the Convention on Biological Diversity (CBD).

In this an Act, an attempt is made to harmonise various different pieces of separate legislation pertaining to Angola's marine resources. Article 6(3) provides for sustainable development, responsible fishing, optimal conservation and use of aquatic biological resources, the user-pays - , precautionary - , prevention- and polluter pays principles.

4.3.3 The Southern African Development Community Protocol: 2001

The SADC Protocol requires the advancement of the sustainable and responsible use of living aquatic ecosystems and resources within the jurisdiction of its member States. This Protocol was adopted by Angola in 2001. The SADC Protocol is aimed at enhancing food security and human health, safeguarding the livelihood systems of fishing communities, generating economic opportunities for nationals in the region and ensuring that future generations benefit from renewable resources through co-operation and co-ordination. In implementing the SADC Protocol, Angola intends establishing a committee exclusively dedicated to the promotion of subsistence, artisanal and small-scale commercial fisheries.

Article 12 of the Protocol expressly addresses subsistence, artisanal and small-scale commercial fisheries. It requires State Parties to seek an equitable and rational balance between economic and social objectives, as they pertain to the exploitation of living resources by artisanal and subsistence fisheries.

4.4 Fishery Sector Management

Angola's National Fisheries Directorate (DNP) is responsible for the conception, supervision and orientation of Angola's fisheries policy, as far as this relates to fleet development. In addition, it administers the licensing regime for the industrial and semi-industrial sectors, and manages the fishing quotas.

Chapter III of the new Aquatic Biological Resources Act focuses on the granting of fishing rights. These may be granted to any legal entity (both national and / or foreign), or individual, provided the recipient of the fishing rights fulfils the legal requirements. Artisanal fishing rights may only be granted to Angolan persons, who are defined as follows in Article 1:

- An Angolan company;

[61] Driven by Angola's Fisheries Minister, as well as international support. *See* http://www.angolapress-angop.ao/governo.asp.

- An Angolan citizen; or
- Any other legal entity composed of a majority of legal or natural Angolan persons

Angolan persons are granted preferential treatment in the allocation of fishing rights, without prejudicing the provisions of international law.[62] So-called 'fishing rights' include the right to be granted a fishing quota, if and when TAC(s) are set, the right to undertake fishing activities and the right to property and commercialisation of catches.

The competent authority for issuing artisanal fishing licenses is the provincial delegation of Angola's Fisheries Ministry. According to the IPA, the fact that the application for these licenses requires the payment of a specified fee, discourages Angolan fishers from applying: thus not all artisanal vessels registered actually have a fishing license. The power of law enforcement and application of respective sanctions is vested with the fiscal authorities.

In terms of the new Act, subsistence fishing is not made subject to the previous authorization, whereas the commercial fishing categories do require a license. The requisite article 43 bases this on the underlying premise that the former constitutes fishing activity aimed at providing familial sustenance, is exercised across a limited range of fisheries and with low-level technological means. It is legally permissible occasionally to sell any surplus catches.

Another distinction drawn by the new Act relates to the different obligations imposed upon different categories of right-holders. Article 38 expressly requires commercial fishing right-holders to pay license fees, cooperate in monitoring activities of both fishing and resource levels, and provide legally stipulated information.

Subsistence right-holders are nevertheless required to pay regard to fishing gear, method and type restrictions, fishing zones and protected species. Article 39 requires subsistence fishers to provide information as requested by competent authorities, for the compilation and elaboration of fisheries management plans.

Articles 39/2 and 158 provide that when subsistence fishers do make use of vessels, they be subjected to existing legislation that provides conditions for the operation of vessels: accordingly, they must possess valid navigation – and property certificates.

Fishing license fees for the commercial fisheries will be established by regulation. The new law indicates that the granting, validity, renewal and payment for fishing licenses in future will be regulated by a joint order between the Ministries of Finance and Fisheries.

Article 53 provides that those artisanal fishers, who invest in land-based facilities, may be exempted from payment of the license fee for up to 5 years. The type of investment required from the artisanal fishers in such a case is however not defined in any more detail. Article 35 stipulates that those applicants who can demonstrate significant land-based processing investments, transformation and 'distribution installations'[63], will be preferred.

4.5 Categories and Types of Fisheries

Traditionally there has been a long debate regarding the precise definition of artisanal fisheries. Angolan legislation presently differentiates these artisanal fishers from subsistence fishing according to the objective of the fishing activity in question: whether the fish caught is used for direct consumption by the fisher's family, or for 'commercial' purposes.

[62] Namely the SADC Protocol and the UN Convention on the Law of the Sea (UNCLOS)
[63] Direct translation from Portuguese Act of Law

Article 4 differentiates between commercial and non-commercial fisheries, and provides for the following categories of so-called 'non-commercial' fisheries (according to the above-mentioned objectives with which the fishing activity in question is conducted):

- subsistence
- research
- recreational

Article 5 defines the following categories of commercial fisheries:

- artisanal fisheries (using vessels up to 14 meters in length),
- semi-industrial fisheries (using vessels between 11 and 25 meters in length),
- industrial fisheries (utilizing vessels over 25 meters long).

Article 5 furthermore provides that the distinguishing criteria between industrial and artisanal (commercial) fisheries are to be defined by regulation, by taking account of catch capacity and autonomy, (other) characteristics of fishing vessels, as well as social, economic and technical criteria.

Article one defines recreational fisheries as a non-profit activity, (undertaken for leisure or as sport competition).

The above definitions contained in the new law are based upon the following characteristics of the different types of fishery:

Subsistence: (Art. 1 / 57)

- Purpose: non-commercial,
- intended for family consumption, occasional surplus is allowed to be sold

Artisanal: (Art. 1 / 55)

- Purpose: commercial
- Vessel up to 14 meters in length
- Propulsion system: paddles, sail, onboard and outboard engine
- Fishing gear: hand lines, gill nets, entangling nets
- On-board refrigeration: rarely ice on board

Semi-industrial: (Art. 1 / 60)

- Purpose: commercial
- Vessel up to 20 meters in length
- Propulsion system: inboard engine
- Fishing gear: mechanical trawling, hand lines, drifting long-lines, entangling nets, seine nets and others
- On-board refrigeration: ice on board

Industrial: (Art. 1 / 58)

- Purpose: commercial (either catch-specific species with a high commercial value, or large quantities of fish with a lower commercial value)
- Vessel over 20 meters long
- Propulsion system: engine
- Fishing gear: mechanical
- On-board refrigeration: ice and other processing methods on board

4.6 Management Agreements and Plans

The second Title of the 1992 Angolan Fisheries Law addresses the management arrangements of the country's fishing sector: The first chapter regulates Regional and International Agreements, Arrangements and Regulations, as well as the planning of such activities. Article 8(1) requires the Fisheries Ministry to periodically update such fisheries management arrangements, promote the progressive preparation and drafting hereof, and adjust catch capacities to the levels of exploitable resources.

Article 8(4) requires Fisheries Management Plans to contain the following:

a) identification of exploitable species, together with the State's approval for harvesting of these resources;

b) specified objectives to be reached through the use and management of the fishery concerned;

c) the maximum level or definition of fishing effort that can be accommodated;

d) identification of the of the licensing regime applicable to the main fisheries, the limits of local fishing operations, and the value and contributions available from foreign fishing operations.

Article 9 mandates and requires Angola's Fisheries Ministry, in consultation with the Foreign and International Relations Ministry, to promote, negotiate and conclude international agreements, especially with other regional parties. In a fisheries context, these include:

- co-operation on fisheries-related issues
- ensure the common management of fish resources[64]
- the adoption of co-ordinated measures in the identification of fishing vessel activities
- the implementation of other universally agreed projects and co-ordinated actions

Conservation measures are not addressed in much detail in the LP, which primarily regulates the fishing activities under Angola's jurisdiction from an economic perspective. Other than measures obliging the industrial and semi-industrial fleets to have or invest in infrastructure and capacity on land, and requirements for the competent authorities to prepare and periodically update management plans for the main fisheries (including target species, licensing programmes and fishing effort), this older law does not specifically address conservation measures.

In 1998, a Decree was adopted requiring fisheries management and planning to be based on information received from Angola's Institute for Marine Research (IIM) and a consulting body of the country's fisheries Ministry. However, no formal management plans as such have been

[64] *supra*

adopted yet, although certain measures based on IIM's recommendations have indeed been put in place. These include, for instance reducing the amount of shrimp fishing undertaken.

Instead of formal management plans as such, Angola's Ministry of Fisheries annually publishes Executive Decrees, containing the following examples of requirements:

- fishing vessels longer than 18 meters are required to install Vessel Monitoring Systems (VMS);
- closed seasons and fishing zones are regulated and monitored;
- catch and fishing limits.

These decrees have furthermore banned beach seining in Angola's ports and bays, and established formal procedures and protocols for the reporting and recording of statistical data from the artisanal and seine fishing sectors.

4.7 Fishing Licenses

4.7.1 Angolan Vessels

Chapter Two of Title II of the 1992 Fisheries Law provides for the licensing regime that is applied to Angolan fishing vessels. Article 11 stipulates that all fishing activities are conditional upon the prior issue of a fishing license from the Ministry of Fisheries. Every owner or ship operator, as well as every fishing vessel, is required to possess a valid fishing license. These have a duration of one year and are issued on a fishery-specific basis. Subsistence fishers are however not required to obtain a license. Article 13 requires a license fee to be set by regulation. Article 14 provides that these fishing licenses are not transferable from one fishing vessel to another. In terms of article 15, the Fisheries Minister may prescribe conditions subject to which the license to fish must be exercised: these relate to fishing zones, vessel dimensions, exploitable species and so on. These fishing licenses can be refused or revoked under a list of circumstances outlined in article 17, including the following: non-use of the license for over sixth months, sustainability of fish stocks, political reasons, if the fishing operations for which the license was issued are considered to be unsuited to Angola's overall development objectives.

Article 16 provides that the Ministry of Transport is responsible for the regulation and authorisation of the construction, importing and modification of Angolan vessels.

4.7.2 Foreign Vessels

Article 18 of the Fisheries Act makes an international access agreement a precondition to foreign fishing vessels being granted access to Angola's fishing waters. In the absence of an agreement between Angola and the foreign state, the Ministry of Fisheries may require the foreign fishing fleet to provide a bond to ensure compliance with the license conditions, fisheries laws and regulations.

4.7.3 Foreign Access Agreements (F/A Agreements)

Article 19 of the Fisheries Act regulates the contents of Angola's Foreign Access agreements, by providing minimum terms and conditions (MTC's) for foreign fishing vessels' access. This provision stipulates that the following must be contained:

a) the number and technical specifications of fishing vessels allowed to fish in Angolan waters, as well as limitations regarding species that are allowed to be captured,

b) fees payable for the right to fish,

c) regulations compelling ship owners to report regularly to the Angolan fishing ministry regarding fishing statistics,

d) a provision placing an obligation on the country of the flag flown by the vessel that all measures have been taken to ensure that the vessel(s) respect the provisions, agreements or other contracts of Angolan laws and regulations;

e) dispute resolution mechanisms, and

f) the number of Angolans that must be aboard these vessels.

4.7.4 Scientific Licenses

Article 23 regulates the issuing of licenses for scientific research purposes. The Ministry of Fisheries is mandated to authorize fishing operations in Angolan waters, when these are required for scientific research. A program detailing the operations to be conducted according to international law must first be submitted. Somewhat surprisingly, vessels with this form of fishing license are exempted from compliance with environmental protection measures. However, the Ministry does prescribe various conditions for the exercise of a scientific research license, although these are more in terms of ensuring the presence of Angolan observers on board the scientific vessel for the entire duration of its operations in the country's waters, as well as the submission of all results acquired to their Fisheries Ministry.

4.8 Licensing provisions under Angola's new Aquatic Biological Resources Act of 2004

In terms of this new Act, subsistence fishing is not made subject to previous authorisation, whereas the commercial fishing categories do require a license. The requisite article 43 bases this on the underlying premise that the former constitutes fishing activity aimed at providing familial sustenance, is exercised across a limited range of fisheries and with low-level technological means. It is legally permissible to occasionally sell any surplus catches.

Another distinction drawn by the new Act relates to the different obligations imposed upon different categories of right-holders. Article 38 expressly requires commercial fishing right-holders to pay license fees, cooperate in monitoring activities of both fishing and resource levels, and provide legally stipulated information.

Subsistence right-holders are nevertheless required to pay regard to fishing gear, method and type restrictions, fishing zones and protected species. Article 39 requires subsistence fishers to provide information as requested by competent authorities, for the compilation and elaboration of fisheries management plans.

Articles 39/2 and 158 nevertheless provide that when subsistence fishers do make use of vessels, they are subjected to existing legislation that provides conditions for the operation of vessels: accordingly they must possess valid navigation – and property certificates.

Fishing license fees for the commercial fisheries will be established by regulation. The new law indicates that the granting, validity, renewal and payment for fishing licenses in future will be regulated by a joint order between the Ministries of Finance and Fisheries.

Article 53 provides that those artisanal fishers, who invest in land-based facilities, may be exempted from payment of the license fee for up to 5 years. The type of investment required from the artisanal fishers in such a case is however not defined in any more detail. Article 35

stipulates that those applicants who can demonstrate significant land-based processing investments, transformation and 'distributions installations'[65], will be preferred.

4.8.1 Reserved Fishing Zones for small scale fisheries

Article 34 of the new Aquatic Biological Resources Act reserves a four nautical mile zone exclusively for subsistence, artisanal, recreational and 'scientific investigation' fisheries. This has finally ended the previous longstanding controversy that existed between the different fishing sectors in Angola. This controversy and clash was attributable (among others) to the fact that two different Decrees provided conflicting positions: Decree 42/89 (prohibiting foreign vessels from fishing with Angola's territorial waters[66]), limited this fishing zone to three nautical miles within Angola's coastline, while Decree 08/02[67] extended this zone to four nautical miles. This approach of exclusively reserving coastal fishing zones for small scale fishers is in line with legal trends in other ACP countries, like the Philippines[68] and Chile[69].

Article 83/3 of the Aquatic Biological Resources Act creates 'Integral Aquatic Nature Reserves', where subsistence fishing is restricted to a daily limit of 20 kg per person. Article 83/4, which creates 'Partial Aquatic Nature Reserves', provides that the competent Ministry is to promulgate regulations addressing subsistence and artisanal fishing in these areas.

4.8.2 Small Scale and Artisanal Fisheries

Artisanal fishing rights are presently registered by the Institute for Development of Artisanal Fisheries ("the IPA") in coordination with the Fishing Ministry's competent authority. Since 1996, IPA and its provincial representatives have conducted a census, of the number of fishers and boats involved in artisanal fisheries along Angola's coast. The numbers and types of vessels, fishing gear, crew (fishers), processing facilities and other socio-economic data is collected; every two years this information is updated. During 2003, the total number of artisanal fishing vessels recorded in the census stood at 617 113.[70]

The majority of the artisanal fishing vessels land their catches on the beach. Fish is sold either fresh or processed. The two main markets for their produce are provided at the community level by the women fish sellers in the towns, or the larger, main markets in the provinces. Even when a common vessel is used or shared by a number of artisanal fishers, the total catch made is commonly shared out according to the actual catch made by each individual.

At a community level, the processing and commercialization of the artisanal catches is predominantly regarded as the woman's job: Thus it is familiar practice for the wife to buy the fish from her husband, then process and sell it.[71] An important rider to add to this statement is that this occurs in a context where one man has several wives, to whom economic independence thus becomes an important issue.

In some of the larger towns however, some women form together in seller's associations, for example the 'Women's Association of Street Sales' in Luanda.[72]

[65] Direct translation from Portuguese Act of Law
[66] Within twelve nautical miles of Angola's coast
[67] which creates and regulates Angola's Fisheries Information and Monitoring System
[68] A fishing zone exclusively reserved for artisanal fishers was extended from 4 to 8 nautical miles from the coast line.
[69] A five mile exclusive fishing zone was reserved for artisanal fishing.
[70] This programme ArtFish was established by the IPA in 1996, with funding from the French Cooperation in Angola and FAO assistance; since 1997 it has been running with funds from the Angolan Fishing Ministry.
[71] Amador, T. (2004) Review and Audit of the Legal Provisions and Institutional Arrangements that impact on the Artisanal Fisheries Sector, p. 41.
[72] Angola's Fishing Associations are addressed in more detail below, under

Between 2001 and 2002 the total catch for artisanal fisheries tripled, although it decreased again during 2003. This was attributed by IPA (Institute for Development of Artisanal Fisheries) *inter alia* to oil waste spills in the Cabinda and Namibe bays, the reduction of fishing vessels in some provinces as well as ongoing projects restricting certain types of artisanal fishing gear (for example the *banda banda*).[73] An innovative introduction by the new Aquatic Biological Resources Act relates to the 'community observers', which has proved very helpful in incorporating the concerns of coastal communities, as well as involving IPA as an important stakeholder in the drafting of this new Act.

Article 152 defines community observers as members of riparian or coastal communities, who are instructed and mandated to monitor fishing activities within the maritime zones reserved for artisanal and subsistence fisheries. Their mandate includes the following:

- Report any fisheries infractions discovered to the competent authorities
- gathering of evidence of fishing by industrial and semi-industrial fleets in the reserved zones
- collection of samples and biological data, including catches, in the reserved zone

The surveillance regulations as drafted partially specify the role played by community observers: they are to communicate infractions observed in the fishing zones reserved for artisanal fishing. It is however important to note that these community observers are actually exclusively vested with monitoring mandates. They do not have specific surveillance roles, and are as such not entitled to any government security or salary provisions.

4.9 Fisheries Compliance

Article 27 of Angola's Fisheries Act places national fishing vessels (regardless of where they operate) and foreign fishing vessels operating within the country's jurisdiction under a legal duty to provide necessary information concerning each vessel and its fishing activities. This should include information pertaining to most aspects of operations, catches, landings, mother ships and support vessels.

More specifically, article 6 of the Executive Decree 8/02 places the fisheries administration under a duty to maintain records of fishing vessels that are entitled to fly Angola's national flag (including those authorised to be used on the high seas), and where these are subject to VMS (vessel monitoring systems).

The fisheries administration is also empowered (but not obliged) to verify data from vessel monitoring systems, (in terms of the above-mentioned Executive Decree 8/02) and logbook data on licenses (according to article 39. c of the Fisheries Act). Article 8 of the Annual Executive Decree (03/04) creates an obligation of filling in the vessels' logbooks: national and foreign vessels under Angola's jurisdiction are to maintain records and promptly report on the following: vessel position, entry and exit from defined maritime zones, catches of target and non-target species, fishing effort and other fisheries data required in terms of sub-regional, regional and global standards on data collection.

The surveillance component of the more generalised MCS functions within fisheries management is also addressed in Angola's framework law on the environment.[74] Accordingly, the Government is mandated to constitute a body of community inspectors, in order to ensure

[73] Amador, T. (2004) Review and Audit of the Legal Provisions and Institutional Arrangements that impact on the Artisanal Fisheries Sector, p. 23.
[74] Law 5 / 98, 19 June 1998.

effective participation of local communities, as well as adequate use of their knowledge and capabilities.

Chapter II of Angola's new Aquatic Biological Resources Act addresses monitoring issues, in terms of which the duties and roles of community observers are defined. Other than this, it does not fundamentally add or alter much to the existing regime. Chapter III addresses the operating rules for surveillance activities, fisheries infractions and also the procedures applicable to these infractions as provided under Chapter IV.

This new law adopts a holistic approach in its regulation of fishing, including the principles of sustainable use and conservation of Angola's aquatic biological resources. It applies to all fishing activities undertaken in Angola's maritime waters, Angolan-flagged vessels on the high seas, aquaculture and fish-processing establishments. It adopts a holistic approach towards the regulation of Angolan fishing.

Article 3, which outlines the aims and objectives of the Act, incorporates UNCLOS's provisions on the optimum utilisation and conservation of living resources in Angola's EEZ.[75]

In addition, provisions of the FAO Code of Conduct on Responsible Fishing and the SADC Protocol that impact upon Angola's artisanal fisheries are incorporated. These include: promotion of the contributions (from fishing activities) to food security and quality of especially local communities; responsible access to fisheries resources, the conservation, management and protection of coastal and riparian areas; and the scientific investigation of biological resources within their ecosystems.

Article 27 requires industrial fishing vessels to supply statistical information of their catches, whilst the Ministry of Fisheries still needs to provide regulations establishing statistical control over catches made by Angola's artisanal fishery.

The currently prescribed MCS system has been criticized, as lacking in means of verification, regarding the installation of VMS-systems on fishing vessels longer than 24 metres.[76] In addition, the existing surveillance system has been characterized as weak, as the existing officers are neither granted police powers, nor characterized as fisheries control officers. In effect, the so-called surveillance officers are not able to adequately control the fishing activities of the larger, industrial vessels. Other shortcomings are that regulations pertaining to fisheries observers have never been promulgated, and that confidentiality clauses and the statistical processing of existing data is insufficient.

Nevertheless, the promulgation of the new Aquatic Biological Resources Act has substantially improved Angola's overall MCS system, including a review of the applicable procedures and sanctions.[77]

4.10 Fishing Industry Representation

Various existing fishing associations and co-operatives in Angola represent the industrial, semi-industrial and artisanal fleets of the country's main provinces. Different associations and groupings are usually formed according to both the geographical location and sub-sectors they represent.

[75] UN Convention on the Law of the Sea, Articles 61 and 62.
[76] SADC MCS workshops, held in Cape Town and Johannesburg, June 2005.
[77] Amador, T (2004) *Review and Audit of the Legal Provisions and Institutional Arrangements that impact on the Artisanal Fisheries Sector*, p. 23.

4.10.1 Industrial Fishing Associations (*Associacao dos Armadores Industriais de Pescas*)

The main industrial associations are represented by the *Associacao dos Armadores Industriais de Pescas,* which is based in Luanda. It comprises around half of the ten fishing companies operating out of Angola. Two of these are partially owned by the state and a foreign Spanish company, while three are private joint-ventures with Spanish companies. All companies of this above association have not invested in any onshore establishments, and merely operate from fishing vessels: demersal long-liners, shrimp trawlers and pelagic trawlers. The individual members of these associations have commonly been employed in positions on former Government teams, and have good relations with Government Institutions and officials.

4.10.2 Semi-industrial Fishing Associations (*Associacao dos Armadores de Pesca Semi-Industrial de Luanda*)

Semi-industrial Fishing Associations (*Associacao dos Armadores de Pesca Semi-Industrial de Luanda* are based in Luanda, and the Namibe, Benguela and Cuanza Sul provinces.

The Luanda-based semi-industrial Fishing Association represents around 50 % of Angola's national fleet in this sector, and 100 % of Luanda's semi-industrial fleet. Five of these members are incorporated as companies, and the remainder is constituted by individual vessel owners.

Twenty-five members of this association are drawn from the small-scale fishing sector, representing mainly the artisanal vessels with outboard motors (*chatas*) and some gillnet and line fishing vessels, with an average crew component of between 8 and 10 men on board vessels of between 8 and14 metres in length.

4.10.3 Provincial Fishing Associations (*Associacao Provicial de Pesca Industrial e Semi-Industrial - APPIS*)

Provincially the associations are represented via the provincial Fisheries Directorates of the Ministry of Fisheries. These associations were extensively consulted on the drafting of the recent Aquatic Biological Resources Act.

4.10.4 Artisanal Fisheries and Cooperatives

By and large, Angola's artisanal sector organizes itself into co-operatives of small-scale fishing activities. Legally these cooperatives are formally established through local government, in terms of the Statute of Fishing Cooperatives (Order N.58/87 of 14 September 1987). The Ministry of Justice officially approves and publishes these orders of co-operative formations. The fishing co-operatives provide a necessary and useful vehicle of accessing governmental support, as well as marketing a large proportion of catches made by the artisanal sector.

4.11 Conclusion

The Institute for Artisanal Fisheries (IPA) is currently re-directing and re-defining the structural functionalities of fishing cooperatives, according to a decidedly more market-orientated policy laid down in 1998.[78]

[78] Amador, T (2004) *Review and Audit of the Legal Provisions and Institutional Arrangements that impact on the Artisanal Fisheries Sector*, p. 34.

It has also been indicated that in terms of imminent new small-scale fisheries draft regulations, the IPA together with its provincial delegations will have increased responsibilities. These draft regulations provide that the IPA will be the responsible body for performing censuses of all vessels that form part of the artisanal and subsistence fishing fleet.[79]

However, as far as broader fisheries management is concerned, Angola's recent non-renewal of the foreign access agreement with the European Union will provide it with opportunities and challenges: Opportunities to further its *Angolans First* policy, which must enable it to comprehensively manage its own fisheries and invest in research and compliance to stabilise its capture fisheries and perhaps invest in new fisheries. The principal challenges would be to attract foreign and domestic investment in fisheries and related industries to replace the European Union funding gap, to grow Angolan fisheries management and research capacities and to fully implement its new legislative regime.

[79] Otherwise referred to as Angola's small-scale fisheries.

5. RECOMMENDATIONS

This report recognises that although all three BCLME countries have correctly ensured that systems of closed access fisheries have been established in terms of law, there is much room for improvement in the implementation phases of fisheries management, compliance and research in each of the three countries.

However, before the recommendations are made on a country–by–country basis, it may be relevant to note that the intended Benguela Current Commission envisaged in the BCLME SAP, could have an important role to play in the co-ordination, reporting and monitoring of fisheries management, research and compliance initiatives within each member state. This assertion is made particularly having regard to the following:

- An IBCC could play a crucial role in the co-ordination and sharing of and access to shared stock research and fisheries compliance. BCLME countries could effectively reduce costs or alternatively expand their research and compliance footprint significantly by sharing resources, both human and physical;
- An IBCC could co-ordinate and lead a harmonisation programme on a range of policy and fisheries management issues, such as closed seasons, marine protected areas, gear and effort controls and sharing of data. The recently concluded SADC MCS initiative to share VMS data could be expanded amongst the BCLME countries to include more strategic MCS data sharing arrangements;
- An IBCC could also lead the development of capacity within the fisheries management, research and compliance fields by partnering with universities and government departments responsible for fisheries and the environment;

5.1 South Africa

1. As is the case in Angola and Namibia, but perhaps more acute in South Africa, is the fact that the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management currently does not employ a single fisheries manager. The effect of this is that there is no dedicated expertise to carefully balance the biological/ecological, social and economic challenges faced in any of the 22 commercial fisheries. In addition, there are no mentors for young talent even where these are identified. An example of this is the recent authorisation of a second dedicated mid-water trawl fishing vessel to enter the horse mackerel fishery, notwithstanding that the horse mackerel fishing policy states that the fishery can economically and environmentally sustain one dedicated mid-water trawler. South Africa requires the training and development of young talent in the field of fisheries management, coupled with the placement of fisheries management mentors.

2. As stated in Section 2, South Africa's codification of fishing policies is exemplary. These policies do however require implementation and monitoring to ensure that the objectives set out in each policy are met and if not to examine the reasons and causes. Inherently related is the need to publish fishery management manuals for each of the 22 commercial fisheries. These manuals are intended to guide the overall and long term management of each fishery.

3. Although South Africa's MCS strategies are in broad alignment with the FAO IPOA on IUU fishing, South Africa must develop an official NPOA on IUU fishing, which requires the input of the fishing industry and broader fishing public.

4. Finally, the funding for fisheries research, compliance and management could be substantially bolstered, alternatively, the direct financial burden on the Department of Environmental Affairs and Tourism: Branch Marine and Coastal Management could be significantly reduced if certain innovative funding arrangements are considered. These could include:

   - Increasing levies on targeted fish and by-catches landed to a predetermined percentage of the average market value of the previous fishing season. This predetermined amount would be influenced by factors such as rand spend on compliance, fisheries management and research;

   - Allowing for rebates on fish landed and processed in certain regions or areas where local authorities have explicitly linked their respective integrated development plans to fisheries related economic and social growth;

   - Allowing recognised industrial bodies, recognised under section 8 of the Marine Living Resources Act, to administer a system of permit issuing and vessel licensing, coupled to a rigorous independent auditing regime.

5.2 Namibia

1. It is recognised that Namibia is currently in the process of designing management manuals for its commercial fish stocks. It is recommended that these management manuals require right holders via permit or licence conditions to regularly submit data about, *inter alia*, levels and quality of Namibianisation, fishing performance, job creation and compliance. This regular data would then allow for effective policy design and policy objective evaluation.

2. Namibia, like South Africa is suffering from a skills shortage in the fields of fisheries management and research. Namibia does however have the potential of young talent emerging from the University of Namibia. These graduates do however require placement into a formal “young fisheries manager” or “young fisheries scientist” programme within the MFMR and the support of mentors.

3. Namibia has developed an NPOA on IUU fishing – the only country to do so in the BCLME. Angola and South Africa should attempt to align their respective NPOA’s with Namibia’s which could pave the way to harmonising the systems of penalties and sanctions in the BCLME.

5.3 Angola

1. Angola effectively manages its fisheries in terms of annual decrees which aim to regulate such complex matters as effort control, closed areas and fishing capacity. In this regard, Angola is unique in the BCLME as it does not have any codified management policies or plans. It is recommended that Angola consider developing management plans for each fishery which are issued for at least a medium term period (between 4 – 6 years). Management plans issued to manage a fishery over a medium period would encourage and allow for greater Angolan investment in fisheries, encourage foreign investment in fisheries via Angolan led join t ventures and allow for more effective medium term fisheries management planning and research.

2. Currently, vessels that carry scientific licences do not need to comply with compliance and other environmental protection measures. It is recommended that this exemption be cancelled as it provides a concerning loophole in which IUU fishing could occur.

3. Although Angola has enacted new fisheries related legislation, the necessary regulations and policies (such as an NPOA on IUU fishing) are still lacking. It is recommended that regulations and policies aimed at promoting compliance and effective fisheries management be decreed as a matter of urgency. In addition, the development of these regulations and policies would provide Angola with the ideal opportunity to ensure congruency with Namibian and South African regulations and policies, such as those concerning closed seasons, marine protected areas, fishing effort, gear restrictions and data sharing and data reporting.

4. Finally, as is the case in South Africa and Angola, there is a concern regarding the shortage of fisheries managers and researchers. The BCLME Consortium remains of the opinion that an IBCC would have a crucial role to play in the development of local skills and expertise in these important fields.

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1995 UN Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Migratory Fish Stocks, 34 *ILM* 1542; (1995) 6 *RECIEL* 841.

1995 FAO International Code of Conduct for Responsible Fisheries.

1995 Declaration on the Protection of the Marine Environment from Land-based Activities (Washington), 6 RECIEL (1995), 883.

2001 SADC Protocol on Fisheries (signed 14 August 2001)

2001 Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean ("SEAFO") (Signed on 20 April 2001 by South Africa, Angola and Namibia and came into force on 13 April 2003)

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- www.mcm-deat.gov.za
- www.feike.co.za
- www.empsa.co.za
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- www.concourt.gov.za
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APPENDIX 1: PERSONS CONSULTED

In compiling this Report, the following persons and organisations were consulted:

1. The Deputy Director-General, Marine and Coastal Management, South Africa
2. The Chief Director, Fisheries Management and Fisheries Compliance, South Africa
3. The Director, Surveillance, South Africa
4. Special Adviser to the Minister of Fisheries, Namibia
5. Fisheries Minister of Angola
6. Director, Cabinet of International Relations, Ministry of Fisheries and Environment, Angola
7. IIM and BCLME Representative in Angola
8. Director of Aquaculture, Ministry of Fisheries and Marine Resources, Namibia
9. Chief Environmental Economist, Ministry of Fisheries and Marine Resources, Namibia
10. Director, Directorate of Policy, Planning and Economics, Ministry of Fisheries and Marine Resources, Namibia
11. Deputy Director, Resource Management, Ministry of Fisheries and Marine Resources, Namibia
12. Chief Economist, National Planning Commission of Namibia (Office of the President, UN Systems and Affiliated Organisations, Multilateral Programmes, Directorate of Development Cooperation (DDC)
13. Managing Director of NAMSOV Fishing Enterprises (Pty) Ltd., Walvis Bay, Namibia

APPENDIX 2: NATIONAL LEGISLATION

Country	Law
Angola	Constitution of the Republic of Angola (*Lei Constitucional da República de Angola*) *Aquatic Biological Resources Act, 2005* Environment Framework Act (*Lei de Bases do Ambiente*), No. 5 of 1998 of June 19; and the Environmental Impact Assessment Decree *(Decreto sobre Estudos de Impacte Ambiental)* No. 51/04 of 23 July Fisheries Act (*Lei das Pescas*), No. 20/92 of 14 August Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act (*Lei sobre águas interiores, mar territorial e zona económica exclusiva*), No. 21/92 of 28 August Water Act (*Lei de Águas*), No. 6/02 of 21 June
South Africa	Constitution of the Republic of South Africa, Act No.108 of 1996 Marine Living Resources Act, Act No. 18 of 1998 Employment Equity Act, No. 55 of 1998
Namibia	Constitution of the Republic of Namibia, 1990 Aquaculture Act, No. 18 of 2002 Marine Resources Act, No.2000 Territorial Sea and Exclusive Economic Zone of Namibia (No 3 of 1990, amended by Act 30 of 1991) Companies Act No 61 of 1963

UNOPS

United Nations Office for Project Services

The Chrysler Building
405 Lexington Avenue
New York, NY 10174 USA
Telephone: +1-212 457-4000
Fax: +1-212 457-4001
E-mail: unops.newyork@unops.org

BCLME
Benguela Current Large Marine Ecosystem Programme

BCLME Activity Centre for Living Marine Resources

C/o Ministry of Fisheries and Marine Resources
Strand Street
PO Box 525
Swakopmund
Namibia

efa

ENVIRO-FISH AFRICA (PTY) LTD

22 Somerset Street
Grahamstown
6140, South Africa
Telephone +27 046 622 8241
Fax +27 046 622 7950
Email: info@enivrofishafrica.co.za