Elements of success in Namibian law and policy on sustainable fisheries:

A law and policy evaluation of Namibia's property rights approach to sustainable fisheries in light of obligations set down in the UNCLOS and related international agreements

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" As we express gratitude, we must never forget that the highest appreciation is not to utter words, but to live by them."

-John F Kennedy

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List of Acronyms

BCC	Benguella Current Commission
FAO	Food and Agriculture Association
ICCAT	International Commission for the Conservation of Atlantic Tunas
LRDC	Law Reform and Development Commission
MCS	Monitoring, Control and Surveillance
MFMR	Ministry of Fisheries and Marine Resources
MOJ	Ministry of Justice
MRA	Marine Resources Act
SADC	Southern Africa Development Community
SEAFO	South-East Atlantic Fisheries Organisation
SWAPO	South West African People's Party
TAC	Total Allowable Catch
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea

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Introduction

Background

This chapter presents a brief summary of the political history of Namibia, some background information on Namibia's ratification of UNCLOS, the structure and development of the fishing industry, as well as the country's approach to some of the principal challenges in fisheries management concerning the sustainability of marine resources and the adoption of property rights management/Namibinisation policy to secure the future of the industry.

Political History

Before delving into the approach of Namibia to fisheries governance, management and regulation, it is appropriate to outline the struggle for independence and how Namibians have sought to take control of their own destiny including the management of the country's natural assets including most importantly the management of its marine resources. The republic of Namibia, located southwest of Africa gained its independence on 21 March 1990. Before its independence, Namibia was a Germany colony from 1884 until 1915, after which it was subsequently colonized by South Africa from 1915 until 1989.[1]

German colonial rule in Namibia (previously referred to as South West-Africa) came to an abrupt end in 1915 after the former was defeated in World War I (WWI). As part of the restructuring of Germany's overseas colonies, the League of Nations handed the trusteeship of Namibia over to South Africa.[2] Under this trusteeship, South Africa was entrusted to administer Namibia and assist its people to gain independence. This was, however not the case and so began South Africa's

[1] Jeroboam Shaanika, Namibia's Independence Struggle, Vide http://www.swapoparty.org/namibias_independence_struggle.html

[2] The end of German colonial rule in Namibia was instigated by the Treaty of Versailles; the peace treaty that ended the state of war between Germany and the Allied Powers. The Treaty of Versailles was signed on 28 June 1919 and officially confiscated Germany's colonial empire.

progressive attempt at incorporating Namibia as its 5th province. In vehement opposition to the suppression of their right to self-determination and independence, the Namibian people began to formulate political groups aimed at defending their sovereignty and land. At the dissolution of the League of Nations in 1946, South Africa was requested to hand over trusteeship of Namibia to the United Nations, which had taken over the functions of the League of Nations (Du Pisani 1985:208). South Africa neglected this call and continued to impose authoritative rule over the Namibian people, arguing that the majority of them were content with their rule.[3]

By 19 April 1960, the South West African People's Organization (SWAPO), began small-scale guerrilla attacks against South African authorities aimed at achieving independence. So began the fight for the liberation of Namibia, a struggle that was quintessentially aimed at attaining equal rights and freedoms for all and emancipating the masses from the apartheid rule of South Africa.[4]

What ensued was a long bitter battle over the next twenty-five years, which saw many people lose their lives, displacing others and sending hundreds of youth into exile. In 1962, SWAPO founded its armed wing, the People's Liberation Army of Namibia (PLAN). On 26 August 1966, the first armed clash of the liberation struggle took place when the South African Defense Force and South West African Territorial Force attacked SWAPO-PLAN combatants who had set up a camp at Omugulugwombashe. This attack, which is now celebrated as National Heroes Day in Namibia, would mark the beginning of the Namibian liberation War of Independence[5].

In October 1966, the UN General Assembly resolved to end South Africa's mandate over Namibia, declaring that the former had no longer any rights to administer the territory and that henceforth South-West Africa was to come under the direct

[3] Cedric Thornberry (2004). A Nation Is Born: The Inside Story of Namibia's Independence. Gamsberg Macmillan Publishers Ltd. pp. 9–11. ISBN 978-99916-0-521-0
[4] Retrieved from www.swapoparty.org. Last accessed 24 July 2015
[5] Retrieved from http://www.sahistory.org.za/places/namibia. Last accessed on 24 July 2015

responsibility of the UN (Resolution 2145 XXI of 27 October 1966).[6] To this end, South-West Africa was renamed to Namibia in 1968. Under the same resolution, South Africa was required to begin the transfer of power or face UN action. Prime Minister Balthazar J. Vorster rejected UN supervision, claiming that his government was prepared to negotiate Namibian independence, but not with SWAPO, which by then was the "sole legitimate representative" of the Namibian people as recognized by the UN.[7] Protracted negotiations continued through the 1970's at which time the President of Swapo, Sam Nujoma led negotiations between the Western Contact Group (WCG), which consisted of West Germany, Britain, France, US and Canada, and South Africa on the one hand, and the Frontline States and Nigeria on the other.[8]

On 29 September 1978, the United Nations Security Council Resolution 435 (Resolution 435) was adopted, the resolution put forward proposals for a cease-fire and UN-supervised elections in Namibia and also established the United Nations Transition Assistance Group (UNTAG), a military component that would oversee the elections and subsequent withdrawal of South Africa from Namibia[9]. On 22 December 1988, South Africa finally agreed to implement Resolution 435 having signed and acceded to Tripartite Accord at Mount Etjo Lodge in Central Namibia[10]. Elections were carried out the following year, from 7 to 11 November 1989 with a voter turnout of about 97%. The UNTAG monitored elections were declared to have been free and fair by 14 November 1989. Out of the 72 Constituent Assembly seats, SWAPO obtained 41 seats, the Democratic Turnhalle Alliance (DTA) obtained 21 seats, and five smaller parties shared the remaining 10.[11] On 21 March 1990, Namibia celebrated its independence and Sam Nujoma, President of the SWAPO

[6] Question of South West Africa [1966] UNGA 13; A/RES/2145 (XXI) (27 October 1966).Vide http://www.worldlii.org/int/other/UNGA/1966/13.pdf. Last accessed on 29 October 2015.
[7] Cedric Thornberry, (2004), A Nation Is Born: The Inside Story of Namibia's Independence. Gamsberg Macmillan Publishers Ltd. p 9–11.
[8] The Frontline States (FLS) were a group of organized countries established to achieve majority rule in South Africa. Former members included Angola, Botswana, Lesotho, Mozambique, Tanzania, Zambia, and Zimbabwe.
[9] Resolution 435 was adopted by 12 votes to none; Czechoslovakia and the Soviet Union abstained while the People's Republic of China did not participate in the vote.
[10] Karen Wellens, 'Resolutions and statements of the United Nations Security Council (1946-1989)' : a thematic guide. (1990) BRILL. p. 200.
[11] Vide http://www.un.org/en/peacekeeping/missions/past/untagS.htm

party, was sworn in as the first President of an independent Republic of Namibia. So began the independence of Namibia as a sovereign and free democratic State.

A month after its independence, Namibia joined a host of other nations to become the 160th member state of the United Nations. The admission to the world organization was warranted by the consistent support and advocacy Namibia had been receiving from the UN. The country continues to be a close developmental partner of the United Nations. [12]

History of Marine Resources

The history of fisheries in Namibia prior to independence is a history of exploitation for private gain and little regard for sustainability or maximizing resource entitlements.[13] As a result, it is a well-stated fact that Namibia inherited dwindling and over-exploited fisheries at independence, inclusive of depleted hake, orange roughy, monkfish, sardine, horse mackerel, rock lobster, Cape anchovy and red crab stocks.[14] Fish stocks all experienced a rapid decline during the colonialisation of Namibia and were far below their pristine levels at Independence. A primary contributing factor to this included the lack of appropriate fisheries management structures, scientific assessment capability, or indeed the assertion of coastal State jurisdiction for the purpose of improving conservation and compliance beyond a narrow band of coastal waters extending to 3 nautical miles. [15]

The exploitation of marine resources in Namibia began as early as the 1920's in the coastal town of Luderitz where the first rock lobster canneries were built by colonial

[12] Kari Egge, The United Nations and Namibia since 1990. Report Vide http://www.kas.de/upload/Publikationen/2014/namibias_foreign_relations/Namibias_Foreign_Relations_egge.pdf

[13] Midgley Jeremy, 'A Brief History of Namibian Fishery' (2012), J Midgely and Associates. See http://www.envirod.com/pdf/draftsapril2012/NMP_FEIAR_App_3_Namibian_Fishery_30March2012.pdf

[14] ibid

[15] Barbara Patterson, Karola Kirschner and Rosemanry E Ommer, 'A Short History of the Namibian Hake Fishery—a Social-Ecological Analysis' (2013), *See http://dx.doi.org/10.5751/ES-05919-180466*

German forces.[16] These canneries withered through the great depression in the 1930s until the end of the war, which saw the transformation of the international fishing market. In 1946 two American leading shipping lines on the South African route, resolved to install deep freeze compartments on all new vessels, with the aim to export frozen lobster.[17] Shortly thereafter South African producers imposed a monopoly-marketing organisation by the name of the South African Rock Lobster Association (SAFROC) on all quota holders, and in 1949 the Lüderitz producers formed an affiliated body, the South West Africa Rock Lobster Association (SWAFROC). These organisations were instrumental in opening up the wealthy US market and soon the US demand outstripped the Namibian production of rock lobster. Prices increased subsequently as well as the incentive to harvest more lobsters, since an export quota was now a guarantee of high profits.[18]

To meet this demand, Lüderitz canneries were substantially converted to process frozen Lobster tails by the mid-1950s. Mergers between companies and takeovers reduced the number of producers to just two players, namely Sea Products (subsidiary of the Oceana group) and South West Africa Fishing Industries (SWAFIL). The catch of lobsters continued to increase and soon began to over-exploit the stock, this situation was soon made worse when, in 1964, a third large quota was allocated to Angra Pequena (later Blue Angra), a subsidiary of Kaap Kunene of South African descent.[19] Again, this was a privately owned commercial enterprise which only sought to extract exorbitant stocks and then transport them away from Namibia and back to South Africa for processing and export.[20]

In 1954 six large factories were built along the Walvis Bay waterfront housing fishmeal reduction plants and five also containing canneries. As a result of all this activity, 100 small boats converted from line fishing to purse seining, fishing crews

[16] Barbara Patterson, Karola Kirschner and Rosemanry E Ommer, 'A Short History of the Namibian Hake Fishery—a Social-Ecological Analysis' (2013), *See http://dx.doi.org/10.5751/ES-05919-180466*
[17] Ibid
[18] Ibid
[19] BCLME, State of Stocks Report No. 1 (2007). Eds. D.W Japps, .M.G. Purves and S. Wilkinson, 97pp
[20] Jeremy David, 'A Brief History of the Namibian Fishery' (2002) Environmental Impact Assessment Report: Dredging of Marine Phosphates from ML170

rose from a few to around 600-700 and factory employment from under 100 to about 2,500. The sardine (pilchard) catch escalated from 1 000 tonnes in 1948 to 262 000 tonnes in 1953 and for a brief period Walvis Bay became a boom town with native Namibians from the regions flocking to the small town in search of job opportunities.[21]

The early 1950's and 1960's saw the beginning of two major industrial fisheries in Namibia, namely Inshore pelagic fishery for pilchard and anchovy which were being conducted by Namibian based and offshore trawl fisheries for mainly horse mackerel, which were carried out by fleets from foreign nations. In terms of marine resource management, the responsibility for inshore and offshore fisheries management was divided between the South African administration and the International Commission on South East Atlantic Fisheries (ICSEAF) respectively. [22] The latter was the first international body concerned with the management of the resource and was based in Madrid Spain. When pilchard catches began to take a drastic fall in the 1970's due to over-exploitation, vessels began to look at other pelagic stocks including horse mackerel, anchovy, round herring and red eye which are found in similar inshore localities.[23]

The scientific picture concerning the exploitation and abundance of the resource speaks for itself. During the tenure of the ICSEAF an estimated peak catch of 820,000 tonnes was recorded for hake, followed by a swift decline at about 338,000 tonnes landed by 1988.[24] The main participants in the offshore fishery of hake and horse mackerel during 1986 and 1987 (mean actual catch) were all distant water fishing fleets and were predominantly from Spain followed by the USSR. The precise fleet of flag States are shown in the table below:

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[21] ibid
[22] Ibid
[23] The Dr. Fridtjof Nansen Programme 1975-1993: Investigations of fishery resources in developing regions History of the programme and review of results, **FAO FISHERIES TECHNICAL PAPER 391**. Vide http://www.fao.org/docrep/004/x3950e/x3950e00.htm
[24] The Dr. Fridtjof Nansen Programme 1975-1993: Investigations of fishery resources in developing regions History of the programme and review of results, **FAO FISHERIES TECHNICAL PAPER 391**. Vide http://www.fao.org/docrep/004/x3950e/x3950e00.htm

Hake		Horse mackerel	
Spain	150	USSR	231
USSR	118	South Africa	96
South Africa	29	Rumania	70
Others	6	Bulgaria	47
Rumania	4	Poland	15
Poland	4	Others	18
		Cuba	18
		Spain	18
Total	**340**	**Total**	**511**

Figure 1:

Source: ICSEAF Statistical Bulletin. 1986 and 1987 and SAC/89/Doc. 12[25]

There was also a move to new species. Most notably, Namibian red crab fisheries began in the mid 1970s as an open resource targeted by foreign vessels. By the year 1974, 17 vessels, mainly of European decent, with Spain in the lead once again, began fishing Namibian shores for crab with catches reaching a peak of approximately 10 000 tonnes by 1983 (Jeremy Midgely 2012).

The exploitation of Namibian resources by the South African Administration was carried out despite the fact that the country had yet to be fully integrated into the state of South Africa. The administration of its marine resources was thus carried out lawlessly through the power of white minority representation in the whites-only Parliament of South Africa.[26] This had catastrophic consequences in relation to the resource sustainability. In the absence of quota control, fish was simply harvested then transported immediately for processing in other countries. Only in 1987 did the Administration begin to grant rights for 7(seven) year periods, despite this

[25] ICSEAF Statistical Bulletin. 1986 and 1987 and SAC/89/Doc. 12

[26] Barbara Patterson, Karola Kirschner and Rosemanry E Ommer, 'A Short History of the Namibian Hake Fishery—a Social-Ecological Analysis' (2013), *See http://dx.doi.org/10.5751/ES-05919-180466*

development, Namibians were still not allowed to participate in commercial fisheries as a result of the apartheid and exploitative policies of South Africa.[27]

The South African Administration was characterized by the patent abuse of the human rights of the indigenous people of Namibia and apartheid, as a political system was inconsistent with the rule of law.[28] Without access to economic opportunities to participate in the fisheries sector and in the absence of a system of social equity, Namibians remained disenfranchised throughout this period.[29]

Pre-independence regional structure for fisheries management

The role of regional international bodies in resource management was fragmented and ineffective. The ICSEAF was founded in 1969, but only conducted its first working session in April 1972. Its 1971 Convention mandated the ICSEAF to manage fisheries in the South-east Atlantic region, in the exclusive economic zones of Angola, Namibia and South Africa as well as in the adjacent waters of the high seas. In addition to this, ICSEAF had been created to counteract the increased levels of exploitation of the newly discovered rich fishing grounds off the Namibian coast by the fleet of Distant Water Fishing Nations (DWFNs), which included a host of European countries ranging from the USSR, Spain, Rumania, Bulgaria, Portugal and Poland.[30] In addition to the aforementioned countries, Cuba was also one of the main participants in offshore fishing in Namibian waters, participating in both hake and horse mackerel catches. As previously indicated the champion of hake harvesting was Spain having reported the most landings in hake catches whilst the USSR spearheaded horse mackerel catches.[31]

[27] ibid
[28] Sam Amoo and Isabella Skeffers, 'The Rule of Law in Namibia', (2006), Konrad Adenauer Foundation (Eds.). Rule of law: The KAF Democracy Report 2006 Bonn: Bouvier
[29] Ibid
[30] A. Jackson, 'The Convention on the Conservation and Management of Fishery Resources in the South East Atlantic Ocean 2001: An Introduction'. (2002), International Journal of Marine and Coastal Law 17 pg 33-77
[31] Barbara Patterson, Karola Kirschner and Rosemanry E Ommer, 'A Short History of the Namibian Hake Fishery—a Social-Ecological Analysis' (2013), See http://dx.doi.org*/10.5751/ES-05919-180466*

Despite the ICSEAF's intention to act as a forum for scientific advice, management and regulation, it was not able to safeguard Namibian interests, which had not attained its independence and thus remained unrepresented under the ICSEAF enabling convention. At this time, the United Nations Council for Namibia, the entity that had been responsible for acting on behalf of Namibia in relation to international agreements until independence, had not been a member of ICSEAF. Moorsom 1984 observes that the ICSEAF was arguably "an open-ended club of foreign states whose trawlers exploited Namibia's offshore waters"[32]. Attempts by it to implement management measures and a total allowable catches (TACs) both failed.[33] As is well known, TAC's are the total amount of marine resources that may be harvested of a specific fish stock. TACs are regulatory tools for achieving target fishing morality and ultimately a political tool for resource management. [34] By 1979 South Africa and Angola officially declared 200nm (322km) Exclusive Economic Zones (EEZ), with the former seeking to imitate this on the coastline of Namibia.[35] These efforts were rejected by all the foreign fishing nations, primarily because the United Nations General Assembly (UNGA) had revoked South Africa's mandate over Namibia by then, in October 1966, thus nullifying any such action.[36] In the absence of a formally enforced fishery zone, Namibian waters quintessentially remained unregulated and open-access until its independence in 1990.[37] All in all, the ICSEAF failed in its mandate largely because contracting nations did not comply with its conservation and management measures. Furthermore, the Commission lacked effective compliance and enforcement mechanisms and soon fishing states and in particular the DWFNs began to discount its directives. This was fairly typical of the experience of regional fisheries management organizations elsewhere.[38]

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[32] R Moorsom, 'Exploiting the sea. A future for Namibia Fishing' (1984). Catholic Institute for International Relations, London, UK

[33] J.P Roux and L. J. Shannon. 'Ecosystem approach to fisheries management in the northern Benguela: the Namibian experience'. (2004). African Journal of Marine Science 26(1):79–93.

[34] Vide https://stats.oecd.org/glossary/detail.asp?ID=2713

[35] Midgley Jeremy, 'A Brief History of Namibian Fishery' (2012), J Midgely and Associates. See http://www.envirod.com/pdf/draftsapril2012/NMP_FEIAR_App_3_Namibian_Fishery_30March2012.pdf

[36] The United Nations General Assembly Resolution 2145 (XXI) revoked South Africa's mandate over Namibia

[37] R. Moorsom, 'Exploiting the sea. A future for Namibia'. (1984). Fishing. Catholic Institute for International Relations, London, UK.

[38] Robin Churchill , Alan Vaughan Lowe, 'The Law of the Sea: Melland Schill studies in international law'. (1999). Manchester University Press,

Because of its ineffectiveness and the expansion of coastal State jurisdiction, ICSEAF became inoperative and was ultimately replaced by the South East Atlantic Fisheries Organization (SEAFO) in the year 1995 which had a different mandate and geographical scope. Significantly, the founding of SEAFO was an initiative by Namibia to establish a regional fisheries management organization in conjunction with Angola, South Africa and the United Kingdom (on behalf of St. Helena and its dependencies of Tristan da Cunha and Ascension Islands). SEAFO is an intergovernmental regional fisheries management organization mandated to ensure the long-term conservation and sustainable use of the fishery resources (excluding migratory fish stocks) in the high seas of southeast Atlantic Ocean, within the Convention Area.[39] The SEAFO Convention Area is situated in the southeast Atlantic region, outside the exclusive economic zones of the coastal states of Angola, Namibia, South Africa and United Kingdom's overseas territory of St. Helena and its dependencies Tristan da Cunha and Ascension Island. It covers an area of about 16 million square kilometres. The SEAFO convention will be discussed further on in this paper as a vital instrument in having assisted Namibia's maintenance of sustainable fisheries practices. [40]

Transition from exploitation

The marine resources open-access property (*res nullius*) regime came to an end on the eve of the country's independence, with the coming into force of the country's Constitution. The Namibian Constitution is the supreme law of the land to which all other laws trace their legitimacy and source. As a starting point the sovereign ownership of natural resources in the country now became vested with the State. Accordingly Article 100 states that-

[39] See http://www.seafo.org/About. Last accessed 3 August 2015
[40] ibid

> *[l]and, water and natural resources below and above the surface of the land and in the continental shelf and within the territorial waters and the exclusive economic zone of Namibia shall belong to the State if they are not otherwise lawfully owned.*

The new constitutional order signaled the end of the avaricious exploitation of Namibia's marine resources, ownership of which was now vested with the State, which also had a duty to preserve, protect and manage these resources for the benefit of its people. Quite notably, Namibia's Constitution is regarded as one of the first in the world to make provision for the conservation of its environment. According to Article 95-

> *[t]he State shall actively promote and maintain the welfare of the people by adopting international policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia, and the utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future.*

To compliment its constitutional efforts at bringing an end to the lawless exploitation of its resources, marine resources particularly, the new government passed into law the Territorial Sea and Exclusive Economic Zone of Namibia Act (Act No.3 of 1990). The Act served to proclaim Namibia's 200 nautical-mile (370 km) EEZ and also sought to determine and define the territorial sea, internal waters, contiguous zone and continental shelf of Namibia. The provisions in the 1990 Act were all carried out in accordance with relevant articles in UNCLOS which oblige Namibia as a member state to *inter alia* establish the breadth of its territorial sea, declare its EEZ and conserve its natural resources.

Namibia became a signatory to the United Nations Convention on the Law of the Sea (UNCLOS) on 18 April 1983. Its ratification of UNCLOS was carried out through representation by the United Nations Council for Namibia, which acted on behalf of

Namibia since the country had not yet gained its independence at the time. [41] UNCLOS is thus an inherited law and remains valid and enforceable post-independence by virtue of Article 140(1) of the Namibian Constitution, which provides that-

> *Subject to the provisions of this Constitution, all laws which were in force immediately before the date of Independence shall remain in force until repealed or amended by Act of Parliament or until they are declared unconstitutional by a competent Court.*

It is pivotal to note that the transposition into Namibian law of UNCLOS and all other international agreements entered into by the country, is constitutionally sanctioned by Article 144 which provides that-

> *Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.*[42]

The Ministry of Fisheries and Marine Resources (MFMR) spearheaded the reform process of the fisheries sector. Accordingly, the Ministry was designated to restructure and implement new fishing policies, direct the flow of benefits toward Namibians, recuperate the country's marine resources which had always been subject to foreign industrial-style exploitation as well as to enforce stricter controls in respect of both in the number of vessels licensed to fish and in total allowable catches (TACs). In addition to this, the MFMR is concerned with developing a domestic processing sector for living marine resources.

Under the custodian of the MFMR the fisheries sector is one of the highest contributors to the Namibian economy, and second only to the mining sector in

[41] Sam K Amoo and Isabella Skeffers, *The Rule of Law in Namibia*, (2006), Konrad Adenauer Foundation (Eds.). Rule of law: The KAF Democracy Report. Bonn: Bouvier
[42] The Constitution of Namibia, Article 144

terms of exports.[43] The management of commercial fisheries is now based on a system by which rights are granted, TACs are set based on research results and quotas are issued to rights holders. The dynamic management system of the MFMR has served to enhance monitoring, control and surveillance (MCS) and stock rebuilding as well as to develop a sustainable fisheries that will to capitalize on the countries rich fish resources for the greater benefit of all Namibians.[44]

The legislative mandate of the MFMR has always been geared towards overcoming the inherited challenges of the sector, which includes the following-

- uneven distribution of marine resources;
- overexploited stocks of commercially valuable species (i.e. hake, pilchard and anchovy);
- shortage of skilled workforce; and
- and industry dominated by foreign companies which captured almost all the economic rent from the fisheries;

The do this effectively, the Ministry is thus divided into 5 divisions namely; Resource Management, Operations, Planning and Economics, Aquaculture and General Services, which are further divided into sub divisions as seen in the figure below-

[43] MFMR, 2010
[44] See, http://nodc-namibia.org/en/home. Last accessed on 4 August 2015

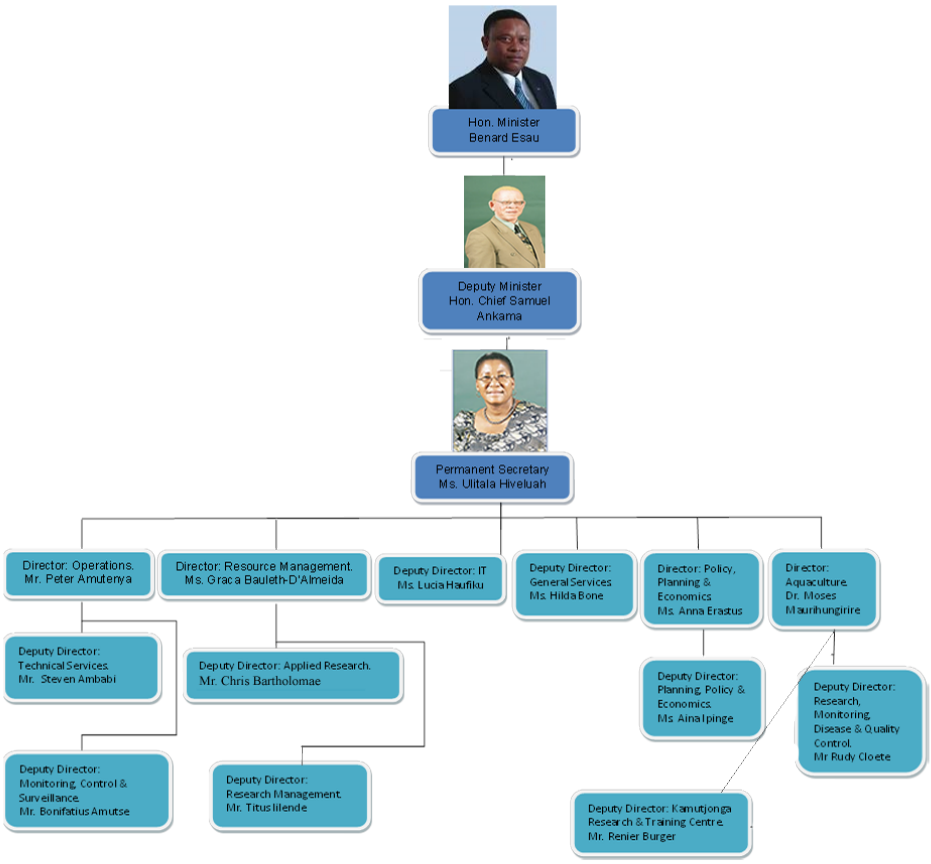

Figure 2: Ministry of Fisheries and Marine Resources Organogram [45].
Source MFMR, 2006

The Operations division and the Resource Management Division are perhaps two of the most important under the Ministry in the context of maintaining sustainable fisheries management practices. The division for Resource Management is responsible for;

- Regulating fishing activities within the Namibian EEZ;
- Monitoring, control and surveillance activities both at sea and onshore through the operation of fisheries patrol vessels, cars for coastal inspection and fisheries patrol aircraft by Fisheries Inspectors; and

[45] Last updated in 2006. See http://www.mfmr.gov.na/

- Fisheries legislation enforcement.

Conversely, the Operations Division is mandated to provide advice on the state of commercially important marine fish stocks and give recommendations on their appropriate yields, provide appropriate management measures in relation to species and fish size limitations, closed seasons, closed areas, and limitations on the types and effectiveness of fishing gear.[46]

After its formulation at independence, the MFMR implemented its first policy for the marine fisheries sector in 1991 in a White Paper titled *'Towards Responsible Development of the Fisheries Sector'*. The policy is based on four main strategies namely[47]:

- Rebuilding stocks;
- Building a national industry;
- Namibianisation of fisheries sector; and
- Empowerment, to ensure an equitable balance of participation and increasing employment, especially for previously disadvantaged Namibians.

The 1991 White Policy Paper later went on to become the framework on which the Sea Fisheries Act (Act No. 29 of 1992) was formed. Namibia then proceeded to ratify numerous international fisheries conventions, agreements and arrangements, the most important being:

- The Agreement for the Implementation of the Provisions of the UN Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Fish Stocks and Highly Migratory Fish Stocks, the (UN Fish Stocks Agreement) was ratified in 1998;
- The FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas the (Compliance Agreement) was signed in 1998;

[46] MFMR, 2015. Vide www.mfmr.gov.na
[47] ibid

- The ICCAT Convention in 1999, the CCAMLR Convention in 1999 and the SEAFO Convention in 2002; and
- The FAO Code of Conduct for Responsible Fisheries.

To satisfy the new obligations created by the aforementioned instruments, which were signed into law long after the promulgation of the Sea Fisheries Act, Namibia replaced its former 1992 law with the highly celebrated Marine Resources Act (Act No. 27 of 2000) on the 1st of August 2001. The new Act sought to incorporate international best practices and standards for fisheries management.

The Namibianisation Policy

The Namibianisation Policy was a strategy by the MFMR to turnaround the fisheries sector of Namibia. Firstly, the Namibianisation policy was targeted to do the following[48];

- to increase local ownership of vessels and companies involved in the fishing industry;
- to create new jobs;
- to replace foreign labour with Namibian labour; and
- to build a domestic processing sector.

The Namibianisation policy was formulated to correct past injustices and to offer permanent respite to Namibians in respect of their marine resources. At the onset there seemed to be two ways to do this; 1) through the exercise of command and control through appropriation and redistribution of fishing rights to previously disadvantaged Namibians or 2) through an incentive based system which was just and fair and promoted economically motived relocations. Although the first route was more popular at the time (in the African context), the Namibian government

[48] Claire Armstrong et al, '10 Benefits and Costs of the Namibianisation Policy, (2004), National Marine Information and Resource Centre

chose to employ an incentive based system, which has now become widely known as the 'Namibianisation system or policy'.[49]

The policy gives incentives to stakeholders who increase participation of previously disadvantaged Namibians in both ownership and employment structures. The incentive alludes to a tax reduction applied to the quota price given to a firm at acquisition of quota rights. The tax reduction is made in proportion to the Namibian element employed in the respective firms structure.[50] The policy gain in the context of Namibian ownership is related as illustrated in figure 2 below:

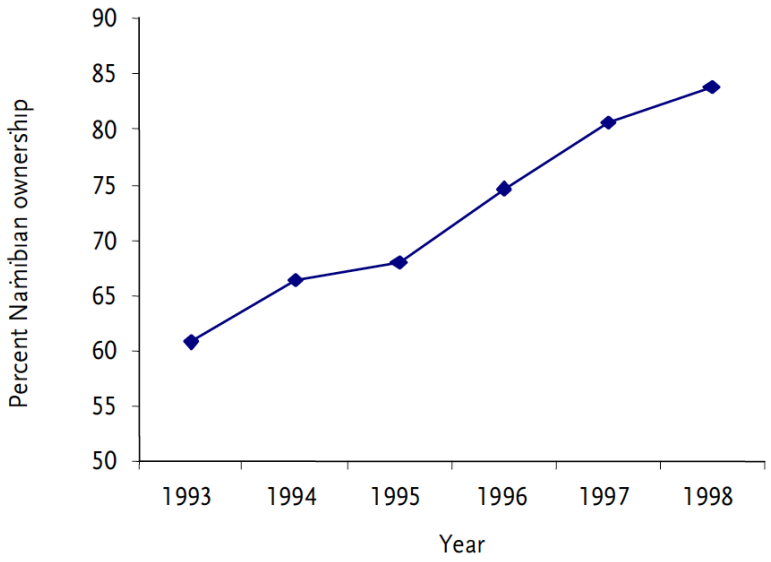

Figure 3: Percentage of Namibian ownership of licensed fishing vessels from 1993 to 1998.[51]

As is evidenced by the above figure, Namibian ownership of licensed fishing vessels grew from about 60% in 1993 to 85% in 1998 an indication that the Namibianisation policy was attaining one of its distinct objectives.

[49] P Manning, Review of the Distributive Aspects of the Namibian Fishing Policy, (2000), NEPRU Research Report No. 21
[50] Claire Armstrong et al, '10 Benefits and Costs of the Namibianisation Policy, (2004), National Marine Information and Resource Centre
[51] MFMR, Report on the Activities and the state of the Fisheries Sector, (1998), Windhoek Namibia

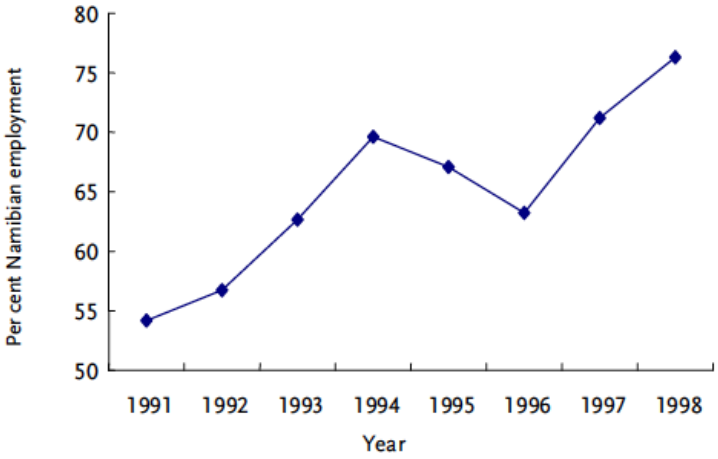

Figure 4: Percentage of Namibian employment on land and sea in the fishing industry from 1991 to 1998.[52]

The above figure shows that the percentage of Namibian employment in the fishing sector also grew from a mere 54% just a year after independence to about 77% by 1998. The remaining two goals of the Namibianisation policy will be discussed in later chapters as part of a wider discourse of the elements of success Namibia has employed towards sustainable fisheries.

[52] ibid

Part 1: Marine resource management

Chapter 1: A synopsis of fisheries in Namibia

Section 1.1

The Fishing Industry

It is trite that the world's oceans contain a broad range of natural resources, (both living and non-living) many of which have only been exploited to a limited degree compared to the natural resources found on land. [53] This is especially the case in respect of non-living marine organisms and deep mineral deposits such as manganese nodules, hydrothermals deposits and hyrdrocrabons, all of which are still relatively new frontiers awaiting exploitation with promise of high economic returns. Regrettably, the adverse is true for living marine resources, namely fisheries, which have been at the forefront of overexploitation and mismanagement since human beings began harvesting them for commercial purposes.[54] In 2008, the FAO estimated that 80% of the worlds fish stock were being harvested up to or beyond their sustainable limits and that only about 20% of stocks were actually being moderately exploited or underexploited.[55] These estimates are frightening and highlight the urgent need for all states to adopt long-term conservation strategies and improvements to their overall fisheries management systems.

Worldwide efforts to improve in the management of living and non-living marine resources are said to have officially commenced with the implementation of the United Nations Convention on the Law of the Sea (UNCLOS) in 1983.[56] Since the introduction of EEZs by UNCLOS, the duty to manage both living and non-living resources in these zones has been vested in respective coastal states. Article 56 of UNCLOS states that-

1. In the exclusive economic zone, the coastal State has:

[53] Yoshifumi Tanaka, 'Marine Resource Management, (2004), The International Journal of Marine and Coastal Law , Vol 19, Issue 4, pg 483-514
[54] FAO, The State of World Fisheries and Aquaculture 2008 (Rome,FAO,2009) 34
[55] ibid
[56] ibid

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;

(b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

(i) the establishment and use of artificial islands, installations and structures;

(ii) marine scientific research;

(iii) the protection and preservation of the marine environment;

(c) other rights and duties provided for in this Convention.

UNCLOS is seen to have transformed the global regime for marine resource management by placing an emphasis on fisheries conservation and the sustainable use thereof. This emphasis is further enunciated under the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks Heeding (the Straddling Fish Stocks Agreement).[57] The Straddling Fish Stocks Agreement was formulated in response to fishing operations, which have the potential to undermine the conservation and management measures established by coastal States in areas under their national jurisdiction in relation to the transboundary character of straddling and highly migratory fish stocks.[58] The agreement is aimed at enhancing the cooperative management of fisheries resources that span wide areas, and are of economic and environmental concern.

[57] Vide http://www.fao.org/docrep/007/y5438e/y5438e07.htm
[58] Vide http://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm

Heeding these calls, the Namibian government committed itself from the onset of its independence to a sustainable and profitable fisheries management model; one that imposed restrictions on who could have access to its marine resources, how much fishing effort individual participants were allowed and how much catch each rights holder could take.[59] With this, the government effectively assumed the role of a trustee for Namibian fisheries, with a duty to manage and sustain these resources for the benefit of all Namibians and future generations. A rights based management system was adopted by Namibia, in order to rebuild fish stocks, prevent overexploitation, introduce previously disadvantaged Namibians to the fishing sector and to promote economic viability of the fishing industry.[60] The Ministry of Fisheries and Marine Resources was set up to drive this process in 1990 and has since then developed various fisheries policies and laws that not only articulate the above, but also promote the objects to UNCLOS and international best practices and standards in the context of fisheries.

Generally, under a rights-based management system, a distinction is made between those individuals or groups entitled to have access to the fishery are said to have use rights (exploitation rights) *vis-a- vis* those who do not have the right to "use" the fishery. Those who have been vested with rights to exploit Namibian fisheries are then said to be holders of 'property right' which relates to a right of ownership, that is, the right of one person (the owner) to benefit in some way from his or her property to the exclusion of others. Although, in the case of natural resources, the resource itself is not owned by the person who holds such a property right (in national and international law the recognised owner is generally the State), he or she does own a right to extract a certain amount of the resource over a specified amount of time.

[59] Robert Pomeroy, 'Rights Based Fisheries Management', Connecticut Sea Grant Extension, Department of Agriculture and Resource Economics, Publication Number CTSG-04-02.

The basic rationale for right-based fisheries management is stock conservation and efficiency goals. The premise is that fishing rights are allocated, through the market mechanism, to those individuals who are able to make most efficient use of them on condition of course, thus maintaining a balance between economic and conservation efficiency.[61]

Namibian coastal waters, which are rich in nutrients and stimulate the growth of microscopic marine organisms, have proven to be one of the most productive in the world. Further compelling this attribute is the cold Benguela current which borders the world's major eastern boundary current systems.[62] The Benguela Current Large Marine Ecosystem (BCLME) is considered to be an asset of global importance and is bordered to the north by the Angola Current and to the south by the Agulhas Current.[63] Flowing towards the Equator the BCLME is deflected away from the coast by the Coriolis force which is in turn generated by the Earth's eastward rotation and the prevailing southerly winds.[64] Angola, Namibia and South Africa are the countries bordering the BCLME.

The northern Benguela marine ecosystem, which is located off the inhospitable hyper arid coastline of Namibia, has played host to large-scale foreign exploitation since the 18th century when foreign vessels, mostly of Northern America, British and Dutch origin, began exploring the cold, nutrient rich waters for economic opportunities. The BCLME sources its waters from the cold upwelled waters from the depths of the Atlantic Ocean close inshore joined further offshore by nutrient poor water that has crossed the Southern Atlantic from South America as part of

[61] Robert Pomeroy, 'Rights Based Fisheries Management', Connecticut Sea Grant Extension, Department of Agriculture and Resource Economics, Publication Number CTSG-04-02.
[62] DC Boyer , HJ Boyer, I Fossen and A Kreiner, 'Changes in abundance of the northern Benguela sardine stock during the decade 1990-2000, with comments on the relative importance of fishing and the environment. In: A decade of Namibian Fisheries Science', (2001), South African Journal of Marine Science.
[63] The Benguella Current Large Marine Ecosystem is the second most productive in terms of fish after the Humboldt Current Large Marine Ecosystem which extends along the West Coast of South America from Northern Peru to the southern tip of Chile.
[64] DC Boyer , HJ Boyer, I Fossen and A Kreiner, 'Changes in abundance of the northern Benguela sardine stock during the decade 1990-2000, with comments on the relative importance of fishing and the environment. In: A decade of Namibian Fisheries Science', (2001), South African Journal of Marine Science. Pg 67 -84

South Atlantic Gyre.[65] Whirlpools from the warm South Indian Ocean Agulhas current along South Africa's east coast do round the Cape of Good Hope from time to time to join the Benguela current.[66] Measuring between 200 and 300 km in width, the BCMLE widens further as it flows north and northwest and consists of a well-defined thermal front between the waters associated with the Benguela Upwelling System and those of the eastward flowing Atlantic currents, which are not deflected northward by the African continent.

The BCLME area of which Namibia is a part of, is characterized by consistent solar radiation which allows for continuous photosynthesis, which in turn generates high levels of productivity within the country's marine ecosystem, and provides an ideal environment for pelagic fish[67] to feed directly on the plankton and to realise a rapid rate of reproduction other species, such as demersal fish[68], crabs and rock lobsters also thrive in these waters.

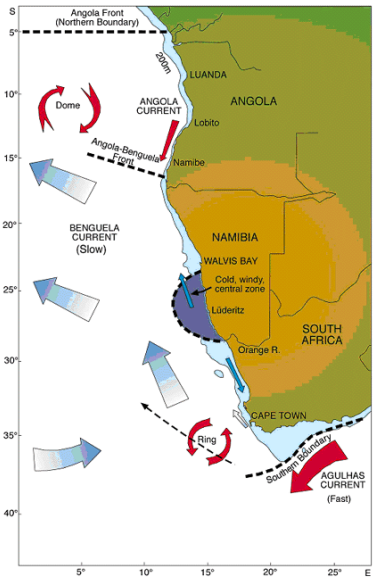

Figure 5: Map of the Benguela Current Large Marine Ecosystem [69]

[65] G Nelson, (1992). 'Equatorial wind and atmospheric pressure spectra as metrics for primary productivity in the Benguela system', (1992), South African Journal of Marine Science, Vol 12: 19–28
[66] ibid
[67] Pelagic fisheries relate to the harvesting of species living in the pelagic zone, which can be characterised as the open waters in contrast to the seabed or the coast.
[68] Demersal fisheries relates to harvesting of species living in the demersal zone which can be characterized as water near the seabed
[69] Sourced from http://www.sprig.co.za/2013/04/sa-and-neighbours-sign-environmental-treaty/. Last accessed on 11 August 2015

Figure 5 depicts the Benguella Current Large Marine Ecosystem from which Namibia gains its rich marine resources. The types of fish as well as their respective means of catching are outlined in the proceeding table:

Small Pelagic (Purse seine catches)	Large Pelagic (Pole and long line)	Mid-water Trawl	Bottom Trawl and long line	Trap	Line Fish
1. Pilchards 2. Sardines 3. Round Sardinella 4. Juvenile Cape 5. Cunene Horse Mackeral 6. Round Herring/Red Eye	1. Yellowfin Tuna 2. Big eye Tuna 3. Albacore Tuna Swordfish	1. Cape and Cunene Horse Mackeral 2. John Dory 3. Alfonsino 4. Reds	1. Deepwater Cape Hake 2. Shallow Water Cape Hake and Dentex 3. Jacopever 4. Monkfish 5. Snoek 6. Sole 7. Kingklip 8. Angelfish	1. Deep Sea Red Crab 2. Rock Lobster	1. Silver Kob/Kabeljou 2. 2. Steenbras 3. Galjoen

Figure 6: Fish species in the BCLME and their respective catching methods.
Source MFMR 2007.

When studying figure 6, It should be noted that not all of the above species of fish are subjected to the quotas and measures that fall under Section 39 of the Marine Resources Act (Act No 27 of 2000). [70] This exception is by virtue of by-catches, which are species that are caught unintentionally while catching certain targeted species and target sizes of fish. [71] Examples of by-catches include Snoek, Alfonsino. John Dory and Reds, which are usually caught inadvertently when harvesting Horse Mackeral species.

The Namibian fishing sector is divided into marine capture fisheries; inland capture fisheries and marine and freshwater aquaculture sector.[72] The country covers an ocean area of 580 000km^2 and its fisheries GDP in 2005 stood at US$372.2

[70] Section 39 (1-6) of the Marine Resources Act, (Act No. 27 of 2000)
[71] Catch that the fisherman takes unintentionally in addition to the target catch. (FAO 2008). Bycatch can further relate to different species, the wrong sex, or undersized or juvenile individuals of the target species.
[72] Vide http://www.mfmr.gov.na/

million.[73] The country does not have any noteworthy natural freshwater bodies suitable for capture fisheries exploitation, although some rivers on the borders of Angola, Zambia, Zimbabwe and Botswana in the Caprivi and Okavango region are used for limited fishing activities by village communities. Commercial marine aquaculture (mariculture) inclusive of oyster farming is conducted from Walvis Bay, Swakopmund and Luderitz.[74] The lack of finances and lack of interest by financial institutions to finance fish farmers are regarded as some of the challenges to a fledging mariculture industry in Namibia.[75]

Although aquaculture activities are believed to have started in the late 1800's with the introduction of carps, bass and tilapia, Namibia's aquaculture sector is still in its infancy with no relatively impressive outputs. Studies by the MFMR do however indicate the potential to develop freshwater aquaculture projects along the Okavango, Kunene, Orange and Zambezi rivers as well as in dams.[76] Communities in the Hardap region (one of Namibia's 14 regions) have already begun commercially farming tilapia and catfish albeit in small amounts, for their communities. Having witnessed the productivity of this community project, the MFMR in collaboration with the Ministry of Trade and Industry have further developed six community-based intensive freshwater aquaculture facilities in the Omusati, Okavango and Caprivi region producing tilapia and catfish for local distribution. Fingerings are also being produced and distributed to small-scale farmers in the north for their own production. The Ministry is cognizant that a well-managed freshwater aquaculture sector can assist the country to alleviate poverty, create employment and satisfying local consumption needs.[77]

According to 2010 statistics released by the MFMR, the Namibian fishing industry has contributed to 13,000 jobs, 9000 of which have been created under Hake

[73] ibid
[74] Oyster farming in Namibia is primarily with the Crassostrea gigas) and European oyster (Ostrea edulis), 70% of which is sold to South Africa and the balance in Asia.
[75] Vide http://www.namibianfishingindustry.com/
[76] MFMR, 2007
[77] MFMR, 2012

fishery alone as depicted in the proceeding statistics.[78] The total breakdown of fish species *vis-a-vis* job contributions is as follows:

Type of Fishery	No. of Employees as at 2010
Hake	8956
Monk	350
Red Crab	81
Rock Lobster	455
Pilchards	1361
Horse Mackeral	1029
Line Fish	395
Large Pelagic (Tuna and Swordfish)	593
Seaweed	80
Seals	81
TOTAL	13 380

Figure 7: Fish Species and Employment Ratio

Source: MFMR, 2010

The main fisheries in Namibia are: 1) demersal fisheries, which includes catches of demersal species especially hake, monkfish, kingklip and sole make up the most valuable fishery in Namibia. Freezer and wet fish bottom trawlers and longliners fish for hake; 2) midwater fishery which targets horse mackerel. (Both the midwater trawlers and the purse seine vessels of the pelagic fishery catch this fish.); 3) purse seine fishery, which targets pilchard and juvenile horse mackerel with purse seine nets; 4) deep-water fishery, which targets orange roughy and alfonsino; 5) tuna fishery aimed at albacore, big-eye, yellowfin and skipjack using longlining and pole and line methods; 6) rock lobster fishery as conducted from Lüderitz on small vessels using carrier vessels to bring the live lobster ashore every day; and finally 7) crab fishery which is a small fishery that uses traps to catch deep-sea crab and operates over the whole year.[79]

1.1.1 Indigenous and artisanal fisheries

[78] MFMR, 2010
[79] http://www.fao.org/fi/oldsite/FCP/en/nam/profile.htm

Indigenous fishing covers the full spectrum of fishing practices (customary, recreational and commercial) as carried out by an indigenous people in a specified area. In Namibia there are no indigenous coastal fisheries communities, only perhaps remnants of the Topnaars community who were able to endure the harsh environmental conditions prevalent in the Namib Desert, which is part of the Namibian coastline.[80] Eventually defeated by these unforgiving factors, these communities are no longer actively involved in fishing and have now been absorbed into the main industrial fisheries industry which provide equal access to all Namibians to apply for fishing quotas. Indigenous laws, which previously regulated their fishing activities, have now also become obsolete.[81]

Artisanal fisheries relates to small-scale fisheries for subsistence or local, small markets, generally using traditional fishing techniques and small boats.[82] They secure the livelihoods and food security of many communities in mostly developing nations, although they remain virtually non-existent in Namibia.[83]

Small-scale fishing in Namibia is mostly carried out for recreational purposes. Local inhabitants and those visiting the coastal towns of Swakopmund, Walvis, Bay, Luderitz and Henties Bay will normally participate in recreational fishing to catch fish for their own consumption and sometimes to supply small markets.[84]
Target species include Blacktail, also known as Dassie (Diplodus sargus), Dichistius capensis, Kob/Kabeljou (Argyrosomus spp.), Snoek, Steenbras, also known as White fish (Lithognathus aureti), Barbell, sharks (principally Cow shark)

[80] Nichols, P. (2004). 'Marine fisheries management in Namibia: Has it worked'. In:Sumaila, U.R., Boyer, D., Skogen, M.D. and Steinshamn, S.I. (Eds). (2004). Namibia's fisheries: Ecological, economic and social aspects, p.2.Delft: Eburon Academic Publishers.
[81] Vide Mapaure, C. (2007). 'A failed success: natural acumen and sustainable traditional fishing among the Topnaar community'. Dissertation submitted in partial fulfilment of the requirements of the award of the Specialised Certificate in Customary Law at the Faculty of Law, University of Namibia.
[82] Vide http://artisanalfisheries.ucsd.edu/about-artisanal-fisheries/
[83] Raywood Mavetja Rukoro, Promotion and Management of Marine Fisheries in Namibia, In Gerd Winter (Eds) 2009, Towards Sustainable Fisheries: A Comparative Analysis, IUCN Environmental Policy and Law Paper No. 74, Switzerland
[84] Ibid

(Notorynchus cepedianus) Bronze whaler (Carcharhinus brachyurus), Spotted gullyshark (Triakis megalopterus) and Smooth hound (Mustelus mustelus).[85]

The MFMR regulates recreational fishing in accordance with Regulation No. 5,46 of the MRA.[86] Accordingly all persons wishing to harvest marine resources in Namibian waters for recreational purposes must be in possession of a fishing permit. These permits set out the conditions in which recreational fishing must be conducted and are seen as instrumental in preventing this specific type of fisheries from being used to facilitate larger business initiatives.[87] The figure below illustrates the total number of permits issued as well as the ancillary revenue collected in 2004 by the MFMR. As can be seen, December is peak month for recreational fishing on account of substantial holidaymakers who rush to coastal towns for their holidays.

Months	Permits issued	Revenue collected (N$)*
January	4,572	89,264
February	4,807	83,146
March	5,331	87,416
April	4,631	73,150
May	3,060	54,544
June	1,763	30,072
July	2,622	44,114
August	2,191	40,992
September	2,297	41,650
October	2,829	52,388
November	4,764	98,574
December	14,284	228,774
Total	**51,772**	**924,084**

Figure 8: Total number of recreational permits issued and revenue generated during 2004.
Source: MFMR, 2004

[85] Food and Agriculture Organization of the United Nations (FAO). (2002). 'Fishery country profile: Namibia'. Vide http://www.fao.org/fi/fcp/en/NAM/profile.htm
[86] Regulation 5,46 under the Marine Resources Act, 2000 (Act No. 27 of 2000)
[87] Raywood Mavetja Rukoro, Promotion and Management of Marine Fisheries in Namibia, In Gerd Winter (Eds) 2009, Towards Sustainable Fisheries: A Comparative Analysis, IUCN Environmental Policy and Law Paper No. 74, Switzerland

The following section shall now deal with the discussion on how Namibia began the management of its marine resources.

Section 1.2 The Genesis of Namibian Fisheries Management

1.2.1 Namibian efforts at Fisheries Management

Fisheries management is evoked by regulating agencies in order to find ways to protect marine resources so sustainable exploitation is possible.[88] Fisheries management is often conducted by a governmental system of appropriate management rules aimed at monitoring control and surveillance.[89] Although there are no clear and formally accepted definitions of fisheries management, the FAO has adopted a working definition. Accordingly, fisheries management is defined as the integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and the accomplishment of other fisheries objectives.[90]

Fisheries management is necessitated by various factors including stakeholders, such as UNCLOS, which grants coastal states the right to manage marine resources within their EEZ as well as an ancillary duty to conserve these resources for economic utilization.[91] Article 61 articulates that coastal states shall ensure through proper conservation and management measures that the maintenance of the living resources in their EEZs are not endangered by overexploitation. The duty

[88] The essence of any fisheries management system is to ascertain that marine resources are harvested at a sustainable rate, where the fish population does not decline over time because of fishing practices.
[89] It is interesting to note that Governmental resource protection-based fisheries management is a relatively new idea, having been first developed for North European fisheries after the first Overfishing Conference held in London in 1936.
[90] Section 1.2, Fisheries Management. FAO,'Technical Guidelines for Responsible Fisheries', FAO, Rome. ISBN 92-5-103962-3
[91] Thomas Dux, 'Specially Protected Marine Areas in the Exclusive Economic Zone: The Regime for the Protection of Specific Areas of the EEZ for Environmental Reasons under International Law', (2011), Berlin:LIT, 90

to adopt a fisheries management system and implement conversation measures is therefore an internationally recognized feature that coastal states are now implementing across the board. [92] The FAO has stated that fisheries management should consist of political priorities and objectives.[93] Including:

- maximize resource rent;
- maximize sustainable biomass yield;
- maximize sustainable economic yield;
- increase processing industry;
- secure and increase employment;
- secure protein production and increase food supplies; and
- increase export income.

Indeed, Namibia has incorporated political ideals into its fisheries management approach with the overall aim to maximize the benefits of a sustainable fisheries sector to its general populace after years of being disenfranchised by an apartheid political system. After the country became independent, fishing rights were introduced where historical performance carried little weight (FAO 2000). At the time, there was a high degree of interest from the South Africans, who had been active in the Namibian waters before independence. According to the new regime, this fact bore no weight, and the group was consequently only able to acquire rights through Namibian holding companies or other restructured companies.[94] Namibia took into consideration its prevailing circumstances in terms of its fish stock profile, its socio-economic priorities and the importance it would attach to each of the parameters that feed the equation on how, and at what level its marine resources should be harvested. The former uncontrolled fishing by European and South

[92] Zhen Sun, 'Conservation and Utilisation of the Living Resources in the Exclusive Economic Zone-How Far Can We Go?,(), University of Cambridge, United Kingdom

[93] FAO, Rome (2009) *A Fishery Manager's Guidebook* Eds. Cochrane KL and Garcia S. ISBN 978-1-4051-7085-7

[94] Subsection 43 (4) of the Sea Fisheries Act provides that "Any person who, at the commencement of this Act, is the holder of a licence in respect of a vessel or factory licensed in accordance with the provisions of the Sea Fisheries Act, 1973, shall, for the purposes of section 14 and any other relevant provisions of the Act, be deemed to have been granted a right of exploitation under section 14 (4), valid until 31 December 1993 or such later date as the Minister may, by notice in the Gazette, determine as the expiry date of such right of exploitation.

African fleets that led to the depletion of many commercial species found in Namibian waters thus came to an abrupt end with the implementation of the new fisheries management regime.[95]

The first fishing rights under the new government were introduced in 1994 for a period of four (4), seven (7) and ten (10) years respectively.[96] The granting of rights by the government was based on the premise that this would bring about better resource management outputs as well as ensure a fishing capacity equivalent to the size and sustainability of the resources. Allocation and requirements of different fishing terms continue to be based on specific criteria or conditions, as set out in the MFMR's document entitled *Policy Statement on the Granting of Rights of Exploitation of Fishing Quotas* (MFMR 1993). The reallocation of access rights was and continues to be highly promoted in order to allow new entrants from the formerly disadvantaged Namibian citizens to participate. This promotion is pivotal element of the Namibianisation Policy[97].

Having been established to oversee the transformation of the Namibian marine sector and to drive the implementation of fisheries policies and legislation which promote sustainable goals, the MFMR begun its successful journey towards adopting a system of fishing rights and setting a total allowable catch based on scientific information with the promulgation of the Sea Fisheries Act (Act No. 29 of 1992).[98] The Sea Fisheries Act sought to provide amongst others, for the conservation of the marine ecology and its orderly and sustainable exploitation. This Act was Namibia's first attempt at formally regulating the granting and termination of exploitation rights, the determination of total allowable catch, the allocation of quotas, the suspension, cancellation, transferability or reduction of quotas and all

[95] Bergh, E. and Davies, S. 'Against all odds: Taking control of the Namibian fisheries'. In: Sumaila, U.R., Boyer, D., Skogen, M.D. and Steinshamn, S.I. (Eds). (2004). Namibia's fisheries: Ecological, economic and social aspects, p.2.Delft: Eburon Academic Publishers.
[96] Panduleni Elago, 'Duration of Fishing Rights and Investment: An Empirical Study of Investment in Namibian Fisheries', (2004), Ministry of Fisheries and Marine Resources (MFMR) Directorate of Policy, Planning and Economics, Windhoek, Namibia
[97] ibid
[98] ibid

incidental matters. The Act has since been replaced by the highly applauded Marine Resources Act (Act No. 27 of 2000), which came into effect 8 years after the former. The Marine Resources Act was promulgated with the purpose to-

> *Provide for the conservation of the marine ecosystem and the responsible utilization, conservation, protection and promotion of marine resources on a sustainable basis; for that purposes to provide for the services of control over marines resources.*

As a point of departure, section 1 of the Act defines marine resources as "all marine organisms, including, but not limited to plants, vertebrate and invertebrate animals, monerams, protists including seaweeds), fungi, and viruses and also includes guano and anything naturally derives from produced by such organisms".

The management, protection, and utilization of the above, as found in Namibia's EEZ[99] are therefore all subject to the Marine Resources Act. In the spirit of conservation and managing the utilization of marine resources for the benefit of the Namibian people today and future generations, the Act has set out the following provisions;

Section 33: No person may harvest marine resources commercially without:

- a right to harvest marine resources which are granted by the Minister of Fisheries and Marine Resources;
- an exploratory right to harvest
- unless such a person is a nominated person under an international agreement whereby Namibia grants a member of the Southern African Development Community (SADC) access to the marine resources.

Part IV of the Act relates to the conservation measures that the Ministry has employed to conserve Namibia's marine resources. These measures range from;

[99] The 200nm EEZ of Namibia is outlined by Territorial sea and Exclusive Economic Zone Act, 1990 (Act No.3 of 1990)

controlling and regulating fishing gear, regulating the clearance of fish vessels, regulation of trawling, regulating the measurement of meshes, protection of specific species, regulating the importation of living marine resources and finally the creation of marine reserves.[100]

Namibian fisheries are managed on a system of Rights-based management (RBM), an approach that was adopted by the MFMR at independence. RBM relates to a fisheries management tool that creates rules, which define both the right to use and the allocation of fisheries resources. [101] Thus, fishermen, fishing vessels, fishing communities and so forth shall be awarded with a license, quota or fishing right to fish stocks before they are allowed to commercially harvest marine resources. [102]

There are a large number of different RBM approaches, such as limited non-transferable licensing; community catch quotas; individual non-transferable or transferable effort quotas, individual non-transferable or transferable catch quotas, vessel catch limits or territorial use rights in fisheries.

The next section discusses the RBM from a general perspective as well alternative or counterpart fisheries management approaches available to coastal states, before delving into the intricacies Namibia has evoked under RBM to reach a sustainable fisheries sector.

[100] Sections 12 to 22, Part IV, Marine Resources Act (Act No. 27 of 2000)
[101] Panduleni Elago, 'Duration of Fishing Rights and Investment: An Empirical Study of Investment in Namibian Fisheries', (2004), Ministry of Fisheries and Marine Resources (MFMR) Directorate of Policy, Planning and Economics, Windhoek, Namibia
[102] Vide http://www.fishsec.org/the-issue/fisheries-management/rights-based/

1.2.2 Rights based Management Approach to Fisheries

A 2008 report by the FAO reveals that worldwide maximum production from wild capture fisheries has been reached. The same report shows that the proportion of fully exploited fish stocks has remained stable at 57%, whilst the proportion of underexploited and moderately exploited stocks has continued to decrease, 13% (as at 2009). Moreover, 30% is the progressive proportion at which overexploited and depleted stocks continue to increase.[103]

In addition to argument of overexploited and depleted stocks, figures from the World Wildlife Fund in the proceeding chart placed fully fished fish stocks at 53% in 2008 having increased by 2% since 1974. Overfishing has increased from 9% to 32%, whilst underfished stocks have decreased from 40% to 15% during the same period. These figures are uniform in showing that world fish stocks are declining and that the continued accrual of economic benefits from fisheries can only be attained through a universal adoption of a fisheries management system aimed at achieving sustainability objectives, avoiding overexploitation and maintaining and rebuilding fishery resources. These objectives are central in most fisheries management systems, particularly the RBM approach.

By way of overview, it is interesting to note that the first RBM program for an industrial fishery was implemented in the 1970s for an Icelandic herring fishery. This approach was used because it was deemed rigid enough to enforce and flexible enough to be responsive to unique local realities.[104] It has since delivered results in fisheries as diverse as industrial multi-species trawl fisheries in British Columbia, Canada and artisanal lagoon fisheries in Ecuador. If designed and implemented effectively, RBM systems have the potential to be one of the most powerful

[103] Vide http://www.fao.org/3/a-i0250e.pdf
[104] WWF, 'Rights Based Management: Conserving Fisheries, Protecting Economies', Washington DC

instruments in human efforts at sustaining the world's oceans and its resources.[105] The cognizance of this fact has consequently led many coastal states to adopt RBM systems to formally manage their fisheries. Evidently, the rationale in the formulation of RBMs is to attain stock conservation and efficiency goals, especially given the current strong demand for fishery products and today's efficient fishing technologies, which makes most fisheries highly susceptible to over-exploitation.

In an article titled Rights Based Approaches by the FAO[106], rights-based approaches are said to;

> *[f]ocus on the role of people, and constitute a conceptual framework for the process of human development. These are normatively based on international human rights standards and are operationally directed to promoting and protecting human rights. In the more specific context of small-scale fisheries and its dependent people and communities, this results firstly in the reinforcing of their claim for recognition in national policy and service provision and for legal protections and support for legitimate livelihood actions.*

RBM is aimed at limiting in some way or another the harvesting of marine resources which suffer adversely through overfishing and other illegal, unregulated and damaging fish practices. Generally under this approach, there is a progressive need to link responsibilities with rights in order to meet the regulators expectation of responsible behavior from rights holders.[107] The consequences of RBM are thus to create some form of exclusive rights where the harvesting of fisheries is concerned and to create an ancillary obligation on the part of the rights holder to maintain a spirit of conservation when carrying out its economic activities.[108] Under the RBM approach, the government acts as trustee for the public for the management of

[105] WWF, 'Rights Based Management: Conserving Fisheries, Protecting Economies', Washington DC
[106] See http://www.fao.org/fishery/topic/16629/en , last accessed 26 August 2015.
[107] Ibid
[108] Aaron Hatcher and Hans Frost, 'The Introduction of Right-based Management in Fisheries', (2003), University of Portsmouth, UK

fisheries and effectively manages the issuing of fishing rights. Those who acquire the said rights are said to have real rights in respect of fisheries resources. These fishing rights come in many forms and are all explicitly aimed at limiting exploitation.[109] In utilizing the RBM approach the following questions are pursued;

How does the government restrict access to its marine resources?
How much fishing effort is each participant allowed?
How much catch can each rights holder take (measurement measures)? and
Which actions are allowed and disallowed by the fisheries?

The answers to those questions are often indicative of the type of rights a state wishes to issue under a RBM system. These may include, Individual Transferable Rights/Quotas (ITQ's), limited entry/access rights, input rights and finally output rights.[110]

Transferable Rights/Quotas (ITQ's) are the most commonly used measures used under a RBM.[111] They were first adopted in New Zealand in 1986 as a national policy for fisheries management. The Netherlands, Iceland, and Canada are also among the first nations to adopt ITQ's under their fisheries management approach.

Limited entry or access rights authorize their holder, entry into a specific fishing ground.[112] These rights are also referred to as territorial rights and the issuance thereof can be quite effective in generating economic benefits and showing expansion of fishing capacity. Limited rights have however been criticized for not providing any significant resolve to fisheries management issues such as the rush for fish.[113]

[109] Vide http://www.fao.org/fishery/topic/16629/en
[110] Vide http://www.fao.org/docrep/005/y3427e/y3427e08.htm
[111] ibid
[112] Vide http://seagrant.uconn.edu/publications/fisheries/RightsBased.pdf
[113] http://www.fao.org/docrep/005/y3427e/y3427e08.htm

Input rights relate to the right to a specific amount of fishing effort. These rates limit the total amount of effort such rights holder may exert in harvesting a specific fish stock. Restrictive measures include the regulation of vessel size, amount and type of gear to be used. Input rights are lauded for being cost effective and effective at minimizing wastage. On the negative however, they may increase incentives to expand uncontrolled inputs and require regular adjustments to accommodate ever-changing technology.[114]

Output rights authorize their holder to harvest a specific catch.[115] Accordingly, numerical rights are granted to rights holders granting them access to a piece of a Total Allowable Catch (TAC). These rights are effective in reducing the rush for fish that is common under limited entry rights and over capitilisation. The disadvantages associated with output rights are listed as having the tendency to increase incentives to under report catches and to dump and discard high-grade stock.[116]

Due to the limiting factors applicable under each RBM measure, a combination of these management measures is generally adopted as opposed to just the limited utilization of just one of them.[117] Moreover since RBM systems have the allure of being able to cap the number of vessels legally operating in a fishery, it is thought that different types of RBM can contribute to a transition to a more sustainable fleet or might contribute to specific fisheries management objectives in selected fisheries, particularly with regards to capacity reduction.

The MFMR began implementing a system of RBM through the passing of policies, which included a program of individual catch quotas leased to agents through agreements that allowed the government to collect royalties and recover

[114] ibid
[115] ibid
[116] Ichiro Nomuro, 'Sustainable World Fisheries:Elements of Success' in Peaceful Order in the Worlds Oceans: Essays in honour of Satya Nandun (2014), Martinus Nijhoff Publishers
[117] http://www.fao.org/docrep/005/y3427e/y3427e08.htm

management costs.[118] Fees and duration of quota leases were determined based on their benefit to the citizens and not just the industry. Over time, these policies resulted in substantial increases in Namibian control of fishing quotas, ownership of vessels and processing plants. Despite these fees and cost recovery, the Namibian fishing industry began to be profitable and contributed 10% to GDP in 1998 compared to 4% in 1990, prior to RBM.[119] Other positive consequences include the improvement of fish stocks, which were steered by the use of best scientific information as well as disciplined compliance with conservation measures.[120]

In its pursuance of RBM objectives, the MFMR set out criteria for granting rights and allocation of quotas. Before the year 2000 these criteria were regulated by section 14 (6) of the Sea Fisheries Act, which gave discretion to the Minister of MFMR to take regard of various factors when considering an application for a right. Under the Sea Fisheries Act, these considerations were only listed as five (5), Section 33(4) of the Marine Resources Act, which repealed the former law in its entirety on the 1st of August 2001, later provided for an additional seven (7). The considerations are;

Section 14(6)[121]

a) whether or not the applicant is a Namibian citizen?;

b) where the applicant is a company, whether or not the beneficial control of the company is vested In Namibian citizens;

c) the beneficial ownership of any vessel, which will be used by the applicant;

d) the ability of the applicant to exercise the right of exploitation in a satisfactory manner;

e) the advancement of persons in Namibia who have been socially or educationally is advantaged by discriminatory laws or practices, which have been enacted or practiced before the independence of Namibia;

[118] Panduleni Elago, 'Duration of Fishing Rights and Investment: An Empirical Study of Investment in Namibian Fisheries', (2004), Ministry of Fisheries and Marine Resources (MFMR) Directorate of Policy, Planning and Economics, Windhoek, Namibia
[119] ibid
[120] ibid
[121] Section 14(6) of the Sea Fisheries Act, (Act No. 29 of 1992)

Section 33(4)[122]

f) regional development within Namibia;

g) cooperation with other countries, especially those in the Southern African Development Community;

h) the conservation and economic development of marine resources;

(i) whether the applicant has successfully performed under an exploratory right in respect of the resource applied for;

(j) socio-economic concerns;

(k) the contribution of marine resources to food security; and

(l) any other matter that may be prescribed.

In complimenting these criteria, the MFMR set the duration of quota leases and fishing rights at ten (10), seven (7) and four (4) years respectively. The term of rights were expanded under Section 5 of the *Policy Statement on the Granting of Rights of Exploitation to Utilize Marine Resources*[123], which served as an informative policy developed by the MFMR for the benefit of existing or prospective rights holders. The duration of rights were accordingly set out as follows:

(a) ten years for

(i) ventures at least 90% beneficially owned by Namibians with significant investment in vessels or onshore processing facilities. For this purpose 50% ownership by the venture of a vessel or an operational onshore processing facility in the fishery for which rights are granted will be regarded as sufficient for a significant investment. Ten year rights may also be granted where Namibian rights holders own a smaller share of a larger venture; and[124]

(ii) ventures with more substantial foreign ownership, which makes or has the capacity to make, a major contribution to economic and overall development

[122] Section 34 of the Marine Resources Act, (Act No. 27 of 2000)
[123] Policy Statement on the Granting of Rights of Exploitation to Utilize Marine Resources, Ministry of Fisheries and Marine Resources, 23 June 1993, Windhoek, Namibia
[124] Policy Statement on the Granting of Rights of Exploitation to Utilize Marine Resources, Ministry of Fisheries and Marine Resources, 23 June 1993, Windhoek, Namibia

in Namibia. For this purpose employment of 500 Namibians onshore in activities related to the fishery for which rights are granted will be regarded as sufficient for a major contribution. Ten year rights may be granted to smaller joint or wholly foreign owned ventures which make an innovative contribution to the development of the fishing industry in Namibia, such as developing new products or new export markets, and where a longer term right is necessary to secure the investment involved.[125]

b) seven years for

(i) all other majority Namibian owned ventures having at least 50% ownership in vessels or an operational onshore processing facility in the fishery for which rights are granted;[126]

(ii) all other ventures with less than 51% Namibian ownership with onshore investments in the fishery for which rights are granted;[127]

c) four years for

(i) majority Namibian owned ventures which do not have at least 50% ownership vessels or operational onshore processing facilities in the fishery for which rights are granted, including ventures which only operate in the fishery involved by chartering of vessels or other similar arrangements, and[128]

(ii) ventures with less than 51% Namibian ownership which do not have significant onshore investments in the fishery or which rights are granted. Rights may be granted for shorter terms in particular circumstances, such as in the early stage of development or a new fishery.[129]

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[125] ibid
[126] ibid
[127] ibid
[128] Policy Statement on the Granting of Rights of Exploitation to Utilize Marine Resources, Ministry of Fisheries and Marine Resources, 23 June 1993, Windhoek, Namibia
[129] ibid

Section 18 of the same Policy Statement granted power to the MFMR to grant rights in respect of the following fisheries and activities;

a) crab

b) demersal hake (includes bottom trawl and longline)

c) demersal monk and sole

d) linefish

e) lobster

f) trawl

g) small pelagic purse seine

h) tuna (includes longline, pole and line and purse seine)

i) collection of aquatic plants

j) other (applicant to specify).

The Policy Statement can thus be said to have been an effective tool in outlining the various measures utilized by the MFMR to attain Rights based management objectives.[130] This also rings true for the Marine Resources Act, which is still celebrated as having instituted an ecologically and economically viable fishing industry after the inheritance of severely depleted stocks.[131]

The precautionary Approach as a fisheries management tool

The adoption of a new world legal regime for marine resources in 1982 through UNLCOS, brought along with it many rights and obligations for coastal states in respect of the management of their 200nm EEZs. As many of these coastal states began to reap the benefits and new opportunities created by the growing demand for their marine resources, over-exploitation of important fish stocks, depleting ecosystems and international conflicts on management and fish trade became

[130] ibid

[131] Vide http://africanewswire.za.com/nam-marine-resources-act-wins-silver/

apparent and started to threaten the long-term sustainability of fisheries as a food source.[132] Reacting to this, the Nineteenth Session of the FAO Committee on Fisheries (COFI), held in March 1991, advocated that new approaches to fisheries management is urgently sought out with a view to conserve the environment as well. The FAO was subsequently asked to develop the concept of responsible fisheries and elaborate a Code of Conduct to foster its application.[133] The work of the FAO resulted in the formulation of its International Code of Conduct for Responsible Fisheries adopted by the FAO Conference in 1995, which prescribes a precautionary approach to all fisheries, in all aquatic systems, regardless of their jurisdictional nature under. Article 6.5 of the Code of Conduct reads;

> States and sub regional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.[134]

The above provision of the FAO Code of Conduct is quite clear in its spirit to mitigate risk and has been instrumental in the promotion, adoption and implementation of the precautionary approach, it is complimented by the Rio Declaration as well as the United Nations Fish Stock Agreement; Principle 15 of the Rio Declaration of the UN Conference on Environment and Development (Rio de Janeiro, 1992) states that "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty

[132] FAO Technical Guidelines for Responsible Fisheries, Precautionary Approach to Capture Fisheries and Species Introductions, Rome
[133] ibid
[134] Code of Conduct for Responsible Fisheries, FAO, Rome, 1995

shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation".[135] Similarly the 1995 United Nations Fish Stock Agreement developed a consensus on the importance of introducing and strengthening the precautionary approach to fishery management, duly imbedding the concept in the draft text of its outcome, and outlining elements for its implementation.[136]

It is imperative to note the intricate difference between the Precautionary Principle *vis-à-vis* the Precautionary Approach. The Precautionary Principle through very restrictive measures, guards against the possibility of making irreversible mistakes that are largely caused by ignorance.[137] In several instances, the Precautionary Principle was been applied to the extreme, which later resulted in a complete prohibition of a particular type of industry or technology such as large-scale high seas driftnet fishing. As a consequence of this, stakeholders in the fishing industry developed a reluctance to embrace the Precautionary Principle in fisheries management where most mistakes had a high probability of being reversible.[138] The precautionary approach was shortly developed afterwards thus creating a somewhat more flexible alternative that incorporates socio-economic considerations along with the essential requirement of promoting the long-term sustainability of marine resources.[139]

Accordingly the precautionary approach to fisheries management involves the exercise of 'prudent foresight to avoid unacceptable or undesirable situations, taking into account that changes in fisheries systems are only slowly reversible, difficult to

[135] World inventory of fisheries. Precautionary approach to fisheries management. Issues Fact Sheets. Text by Serge M. Garcia. In: *FAO Fisheries and Aquaculture Department* [online]. Rome. Updated 27 May 2005. [Cited 9 November 2015]. http://www.fao.org/fishery/topic/13302/en
[136] ibid
[137] Pamela M. Mace, Wendy L. Gabriel, Evolution, Scope, and Current Applications of the Precautionary Approach in Fisheries, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543, 1999

[138] Pamela M. Mace, Wendy L. Gabriel, Evolution, Scope, and Current Applications of the Precautionary Approach in Fisheries, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543, 1999
[139] ibid

control, not well understood, and subject to change in the environment and human values'. [140] The Precautionary Approach recognizes that most problems affecting the fishing sector result from insufficiency of precaution in management regimes when faced with high levels of uncertainty.[141]

The Fishery Manager's Guidebook issued in 2009 by the FAO, advises that the application of the precautionary approach is pivotal when "ecosystem resilience and human impact (including reversibility) are difficult to portend and hard to distinguish from natural changes.[142] Due to the uncertainty that affects all elements of the fishery system, some degree of precaution must thus be exercised at all levels of the system, inclusive of the development planning, management, research, technology development and transfer, legal and institutional frameworks, fish capture and processing stages.[143] An important attribute of the precautionary approach to fisheries is its ability to appreciate the slowly reversible, difficult to control, cryptic, but subject to changing environment and human values nature of fisheries systems.[144]

The precautionary approach exercises prudent foresight in cognizance of the uncertainties attributed to fisheries systems. To do this effectively, the following considerations are made:[145]

1. consideration of the needs of future generations and avoidance of changes that are not potentially reversible;
2. prior identification of undesirable outcomes and of measures that will avoid them or correct them promptly;

[140] FAO Technical Guidelines for Responsible Fisheries - Precautionary Approach to Capture Fisheries and Species,
[141] ibid
[142] Kevern L. Cochcrane,, Serge M. Garcia (Eds), *The Fishery Manager's Guidebook*, Wiley Blackwell, UK, 2009
[143] See note 104
[144] WWF, 'Rights Based Management: Conserving Fisheries, Protecting Economies', Washington DC
[145] FAO Technical Guidelines for Responsible Fisheries - Precautionary Approach to Capture Fisheries and Species,

3. that any necessary corrective measures are initiated without delay, and that they should achieve their purpose promptly, on a timescale not exceeding two or three decades;
4. that where the likely impact of resource use is uncertain, priority should be given to conserving the productive capacity of the resource;
5. that harvesting and processing capacity should be commensurate with estimated sustainable levels of resource, and that increases in capacity should be further contained when resource productivity is highly uncertain;
6. all fishing activities must have prior management authorization and be subject to periodic review;
7. an established legal and institutional framework for fishery management, within which management plans that implement the above points are instituted for each fishery, and appropriate placement of the burden of proof by adhering to the requirements above.

It is assumed under the precautionary approach that human actions are harmful to fisheries unless proven otherwise, this is known as the reversal of the burden of proof.[146] An onus is therefore placed on the Fisheries Manager who must evidence that the fisheries practices employed are not detrimental to the marine environment in which fishing is being carried out. Fishing activities are thus seen to have environmental impacts, however, it is not always appropriate to assume that these are negligible until proved otherwise. Although the precautionary approach to fisheries may require cessation of fishing activities that have potentially serious adverse impacts, it does not imply that no fishing can take place until all potential impacts have been assessed and found to be negligible.[147]

An evaluation is made as to the consequences of management and fishery development so as to reduce the possibilities of changes that are not potentially reversible on a 2 to 3 decade time scale, this also helps to determine those changes

[146] FAO Technical Guidelines for Responsible Fisheries - Precautionary Approach to Capture Fisheries and Species,
[147] ibid

which are deemed acceptable or not acceptable. Precautionary management thus involves explicit consideration of undesirable and potentially unacceptable outcomes of fisheries practices.[148]

Moreover, the approach postulates contingency plans aimed at avoiding or mitigating unacceptable outcomes such as the overexploitation of marine resources, overdevelopment of harvesting capacity, loss of biodiversity, major physical disturbances of sensitive biotopes, and or social or economic dislocations..[149].

Namibia's introduction and subsequent implementation of the precautionary approach comes in the form of its ratifications to various regional and international fisheries organisations, which have adopted precautionary management procedures into their respective frameworks. What follows is a brief discussion of the respective frameworks.

Namibia became a member to International Commission for the Conservation of Atlantic Tunas (ICCAT) on 10 November 1999. The principle objective of the enabling convention is to cooperate in the maintenance of tuna and tuna-like species found in the Atlantic Ocean and adjacent seas at levels that will permit the maximum sustainable catch for food and other purposes.[150] The spirit in which the ICCAT Preamble was formulated is intended to conserve and promote precautionary approaches to fisheries management. Namibia has consequently followed suit, having adopted the precautionary approach in the Benguella Current Large Marine Ecosystem (BCLME). In 2013 for example, the government banned investors from commencing with phosphate mining operations in Namibian seas after it emerged that they were planning to mine on fish breeding grounds a situation, which had the likelihood of adversely affecting the recovery of fish

[148] Kerry Truelove, Making Fishing Rights Worthwhile, In Sustainable Fisheries, Responsibilities in Rights based Management, FAO, Rome. Vide http://www.fao.org/docrep/003/x8985e/x8985e0d.htm
[149] FAO Technical Guidelines for Responsible Fisheries - Precautionary Approach to Capture Fisheries and Species,
[150] Amador t, International and Regional Fisheries Agreement and Organisation in the SADC Region: Legal Assessment and Review: Working Paper No.49; EU SACD MCS Programme , pg 30

stocks.[151] The decision taken was to avert any environmental destruction to Namibia's marine resources on account of mining.

Another example of a regional initiative that incorporates the precautionary approach, to which Namibia is a member state, is the Southeast Atlantic Fishery Organization (SEAFO). SEAFO was established in 1997 by Angola, Namibia, South Africa, and the United Kingdom (on behalf of St. Helena and its other island dependencies in the area).[152] The organizational Convention was ratified by Namibia in April 2001 and is replete with references to the precautionary approach. Namibia is host to the SEAFO Secretariat.

SEAFO fisheries management is based on the best available scientific evidence, and where scientific information is uncertain, unreliable or inadequate, the precautionary approach principle prevails, until such time when more information is known about the resources dynamics, ecosystem structures and functions.[153] Once again, this approach was referred to in the aforementioned decision by the Namibian government to hold off the instigation of phosphate mining until an Environmental Impact Study and a Scoping Report had been prepared to determine whether or not such mining would destroy fishing resources.[154]

SEAFO members have conspired to manage and conserve recently discovered and poorly understood high seas or straddling stocks such as the roughy, toothfish, alphonsins and armourheads. These joints efforts by SEAFO member states are all typically regarded as precautionary approaches to fisheries management.[155]

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[151] Vide http://www.namibian.com.na/index.php?id=114235&page=archive-read
[152] Vide www.seafo.org
[153] FAO Fisheries and Aquaculture Technical Paper 569, Review of the State of World Marine Fishery Resources. 2011. Rome .p. 108. Available at http://www.fao.org/docrep/015/i2389e/i2389e.pdf
[154] Vide http://www.benguelacc.org/index.php/en/news/latest-news/93-namibia-is-applying-the-precautionary-principle-in-the-bclme
[155] Pamela M. Mace, Wendy L. Gabriel, Evolution, Scope, and Current Applications of the Precautionary Approach in Fisheries, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543, 1999

CHAPTER 2:

The transposition of property rights in Namibian law

Section 2.1: Analysis of the Marine Resources Act 2000 (Act No. 27 of 2000)

2.1.1 : Introduction

A constructive analysis of the Marine Resources Act of 2000 can only be attained after a full appreciation of the historical circumstances that warranted its promulgation into law has been attained. It is a ubiquitous fact that Namibia inherited over-exploited marine fishery resources at its independence, a situation that was largely perpetuated by the abuse of its open access regime, which existed at the time.[156]

Before 1990, the absence of a well-defined property rights system, meant that access to Namibian waters and its fishery resources were free and open to all.[157] It is only at gaining independence that the new government was able to implement measures geared towards the rehabilitation of the fishery resources and the sustainable usage thereof. The absence of effective, or effectively implemented, "property" rights, are regarded as the primary source of failures within the management of capture fisheries.[158]

It is an interesting coincidence that Namibia's independence came at a time when environmental issues were gaining momentum at global discussions. In 1987 for example, the concept and coining of the term 'sustainable development' came about and was followed five years later by the United Nations Conference on

[156] More than 300 mid-water and bottom trawl vessels were operating off the Namibian coast, primarily from Distant Water Fishing Nations (DWFNs). According to a report by the African Economic Digest (AED (1993) Namibia: fish for growth. African Economic Digest pg 17, the former USSR had a 32 percent market share in the country's fish, followed by Spain with 26 per cent, and South Africa with 7 per cent.
[157] David Symes, *'Property Rights and Regulatory Systems in Fisheries'*, (Fishing News Books, 1998), pg 5
[158] FAO.The conservation and management of highly migratory and straddling fish stocks. Vide http://www.fao.org/docrep/007/y5438e/y5438e07.htm

Environment and Development (or the Rio Conference), which through its Agenda 21, made significant contributions to sustainable development.[159] These events, and others that followed, are noted to have shaped Namibia's strong stance on sustainable environmental governance, a stance that is clearly articulated in its governing Constitution.

As a 'signatory' to Agenda 21, Namibia was required to utilize its resources in order to meet the needs of present generations without compromising those of the future generations, thereby encouraging sustainability.[160] Transposition of this obligation can be deduced from Article 95 (l) of the Namibian Constitution, which clearly sets the scene in promoting sustainable development. Accordingly-

> *The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:*
>
> *(l) maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.*

Another notable legislative instrument that was encouraged by this constitutional directive is the Namibian Environmental Management Act (Act No. 7 of 2007), which deals with the sustainable development and conservation of the Namibian environment.

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[159] Vide https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf

[160] Namibia agreed to the 1992 Rio Declaration on Environment and Development (Agenda 21) during the United Nations Conference on Environment and Development from 3 to 15 July 1992. A Spokesperson of the United Nations asserted that nations did not actually 'sign' the Agenda 21, but rather the Agenda 21 was agreed to by consensus by all nations who were in attendance.

Although it may be perceived that Namibia only began its property rights approach to sustainable fisheries in 2000, with the passing into law of the Marine Resources Act, the opposite is actually true; the Sea Fisheries Act, (Act No. 29 of 1992) is the true instigator of change in the Namibian fishing industry. Under the Sea Fisheries Act, limited-access rights were established for all commercial fishing and the majority of these rights, about 90 percent were regulated through output controls in the form of quotas. The succession of the Sea Fisheries Act simply served to cement and perhaps reinforce the countries rights-based and scientific approach to fisheries management. Through its incorporation of international guidelines on sustainable fisheries management, the Marine Resources Act has contributed to an ecologically and economically sustainable fishing industry, created jobs and fostered food security in Namibia. Other indicators of success include the significant reduction of by-catch and illegal fishing in the countries waters since its implementation.

The legislative intent in 2000 was to encapsulate the vast and complex rules and principles that govern Namibian fisheries law whilst also regulating and restricting the exploitation of marine resources in an equitable and sustainable manner. The spirit of the Marine Resources Act was, and continues to be aimed at the responsible utilization, conservation, protection and promotion of marine resources in the country.

A bigger, more robust law was created, filling out gaps, which existed in the repealed Sea Fisheries Act, and introducing more steadfast provisions to meet the dynamic and changing fishing industry. The Marine Resources Act quintessentially sought to highlight international best practices and standards, whilst retaining essential pro-conservation and sustainability elements in the former law. Other notable additions and changes to the law include;

- The broadening of the subject of its formulation by covering all marine biological resources;

- The incorporation of the Seabirds and Seal Protection Acts into the Marine Resources Act[161];
- The inclusion of obligatory provisions Namibia had inherited by virtue of its membership to various International and Regional Fisheries Management Organisations;
- The expansion in scope of controlling measures; and
- The increase in the limitations on resource exploitation rights.

In addition to the citizenship considerations made by the Minister in awarding rights and quotas under section 33(4) of the Marine Resources Act, the Minister may now also have regard to factors such as:

> *(c) the beneficial ownership of any vessel which will be used by the applicant;*
> *(d) the ability of the applicant to exercise the right in a satisfactory manner;*
> *(e) the advancement of persons in Namibia who have been socially, economically or educationally disadvantaged by discriminatory laws or practices which were enacted or practised before the independence of Namibia;*
> *(f) regional development within Namibia;*
> *(g) cooperation with other countries, especially those in the Southern African Development Community;*
> *(h) the conservation and economic development of marine resources;*
> *(i) whether the applicant has successfully performed under an exploratory right in respect of the resource applied for;*
> *(j) socio-economic concerns; and*
> *(k) the contribution of marine resources to food security.*

Legislative intent when drafting laws can often be construed in the wording of its preamble. On this premise, one can deduce an additional resolve by the legislature in its replacement of the Sea Fisheries Act with the Marine Resources Act. Whilst the preamble of the former law sought-

[161] Sea Birds and Seals Protection Act, 1973 (Act No. 45 of 1973)

To provide for the conservation of the marine ecology and the orderly exploitation, conservation, protection and promotion of certain marine resources; for that purpose to provide for the exercise of control over sea fisheries; and to provide for matters connected therewith.

The preamble of the Marine Resources sought to broaden the scope of conservation and consequently management. It reads-

To provide for the conservation of the marine ecosystem and the responsible administration, conservation, protection and promotion of marine resources on a sustainable basis; for that purpose to provide for the exercise of control over marine resources; and to provide for matters connected therewith.

The tangible differences between the two preambles are twofold. In the first instance, the MRA makes explicit mention of responsible administration conservation and protection on a sustainable basis whilst the SFA preamble makes no explicit mention for the sustainable administration thereof. In the second instance, the MRA seeks to make provision for the ecosystem[162] as opposed to only the ecology[163] as previously set out in the SFA. This feature may well be cited as an intention to have a more encompassing legislation.

Other notable differences can be found in the definitions. The term 'marine resources' is defined in Section 1 of the MRA, 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.[164] The MRA initiates this definition thereby exerting its conservation and management over the entire

[162] A system that includes all living organisms (biotic factors) in an area as well as its physical environment (abiotic factors) functioning together as a unit.
[163] Relates to the study of the distribution and abundance of living organisms and how these properties (biotic and abiotic) are affected by interactions between the organisms and their environment.
[164] Section 1, Marine Resources Act 2000, (Act No. 27 of 2000)

spectrum of marine resources in all Namibian waters, inland water, internal waters, territorial sea, the Exclusive Economic Zone (EEZ), the seabed up to the height water work and private waters, a feature that was devoid in the former law.[165]

The substantive administrative power bestowed upon the Minister of the Ministry of Fisheries and Marine Resources is in accordance with Section 10(a) of the Act, whereby the Minister may determine the overall policy within which the agency shall operate.[166] Section 33 of same, provides the ambits within which these rights must be exercised by the Minister, but also renders a discretionary power to the Minister to decide on whether or not to renew, terminate or suspend fishing rights.[167] The reinforcement of the Ministers powers in the MRA was primarily conducted to allow for more effective administration of the Act. Criticisms thereto have come from many actors in the Namibian fishing industry, especially foreign rights holders who believe that the Ministerial powers are arbitrary and lacking transparency, with the potential to create unease and less confidence in the industry.[168]

It is interesting to note that the Marine Resources Act is currently in the process of being amended with the view to expand on the Ministry's administrative functions. At the time of writing this paper, the amendments had been passed through the National Assembly and are currently being discussed at the National Council. If passed into law, the amendments will see the Ministerial position at the center of all key factors in the use of Namibia's marine resources. The amendments have proven to be quite controversial with industry players accusing them to be aimed giving the Minister more powers in the allocation of fishing rights. The current Minister of Fisheries of Marine Resources has denied the claims and asserts that

[165] Raywood Mavetja Rukoro, Promotion and Management of Marine Fisheries in Namibia, in Towards Sustainable Fisheries Law. A Comparative Analysis, Gerd Winter Ed, IUCN Environmental Policy and Law Paper No. 74
[166] Section 10(a), Marine Resources Act 2000, (Act No. 27 of 2000)
[167] Section 33, Marine Resources Act 2000, (Act No. 27 of 2000)
[168] Panduleni Elago, 'Duration of Fishing Rights and Investment: An Empirical Study of Investment in Namibian Fisheries', (2004), Ministry of Fisheries and Marine Resources (MFMR) Directorate of Policy, Planning and Economics, Windhoek, Namibia

the amendments are warranted by the need to fend off a greedy cartel of some older companies that want to continue their hold on the Namibian fishing industry.[169]

Once signed into law, the following changes, *inter alia* are expected:

1. Persons who acquire fishing quotas and sell them off without authorisation will now have committed a transgression and shall face penalization;
2. Fishing inspectors will now be commissioned to effect arrests, thereby improving the Ministry's control and surveillance capabilities;
3. A closed-season period will be introduced for inland fishing to allow stock to recover; and
4. The Government will increase its participation in the fishing industry through its State-Owned-Enterprise (SOE) Fishcor giving it full powers to actively participate in the fishing industry without any legal restrictions[170];

Why is the Marine Resources Act of 2000 celebrated?

The Marine Resources Act is celebrated for various reasons; paramount is the fact that observers have found it to contain no structural weakness.[171] In addition to this, the MRA is noted to have effectively contributed to the protection of the Namibian ocean and coast as well as for having instituted an ecologically and economically viable fishing industry. In 2012, the legislative instrument won silver at the 2012 Future Policy Awards hosted at the United Nations Headquarters in New York, USA. The World Future Council, which awarded Namibia this recognition, noted that

[169] Retrieved from http://www.namibianfishingindustry.com/ on 14 October 2015.
[170] Fishcor is a State-Owned-Enterprise duly established in 1991. It is a fishing company involved in the harvesting and exploration of marine resources on behalf of the Namibian people to help fight poverty and inequality in the country.
[171] Raywood Mavetja Rukoro, Promotion and Management of Marine Fisheries in Namibia, in Towards Sustainable Fisheries Law. A Comparative Analysis, Gerd Winter Ed, IUCN Environmental Policy and Law Paper No. 74

the Act was effective in its management of marine resources. The Council went further to applaud the following MRA provisions[172]:

a) the requirement of fishing companies having to apply for harvesting rights;

b) the yearly setting of quotas to harvest the eight main commercial species;

c) the careful monitoring of stocks and;

d) the setting of moratoriums where stocks were identified to be below a critical threshold.

The MRA is indeed noted as one of the ultimate tools Namibia has used as a developing state to turn around its entire fishing industry from the devastating state it was in, only 25 years ago. In it are fundamental principles taken from the fisheries policy strategy document, entitled *Towards Responsible Development of the Fisheries Sector,* a strategy document born in 1991.[173] At its implementation, the fisheries policy strategy was geared towards the rebuilding of fish stocks and the development of fisheries in Namibia, based on the 'top-down state model' rather than giving priority to market instruments or co-management, represented by the two other options: the 'market model' and the 'community model', respectively. It is perhaps in this spirit, that the Marine Resources Act has become a celebrated tool of sustainable fisheries management in the world.

2.1.2: A look at sustainability provisions under UNCLOS and the FAO Code of Conduct and how they have been incorporated into national legislation and policy i.e. (transposition)

Sustainability provisions under UNCLOS

Sustainability recognizes that the world's natural resources have conflicting demands upon them and can thus be difficult to manage. In cognizance of this growing need to manage the world's resources more effectively, the United Nations

[172] Retrieved from http://africanewswire.za.com/nam-marine-resources-act-wins-silver/ on 14 October 2015
[173] Towards Responsible Development of the Fisheries Sector (Republic of Namibia, 1991)

World Commission on Environment and Development after coining the term 'sustainable development', defined it as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[174]

The concept of sustainability involves the generation of measures that have the general result of improving human welfare.[175] It is carried out with the highest regard for the environment, providing for the rights of people, whilst also being careful not to impinge on the rights of others to come. Although there is no general consensus on the precise definition of sustainability, there seems to be 3 uniform concepts in sustainable measures;

1. living within certain limits of the earths' capacity to maintain life;
2. understanding the interconnections among economy, society, and environment; and
3. maintaining a fair distribution of resources and opportunity for this generation and the next.

The United Nations approach involves the recognition that sustainable development can only be achieved when the 3 dimensions, i.e. social/political, environmental and economic are all present and mutually reinforcing.[176] According to this approach, sustainability involves finding solutions, which balance the importance and impacts of each of the three categories. Sustainability is thus achieved through conduits that honor ecological limits, restore the health of the ecosystem whilst also enhancing the contribution of the environment to economic progress.[177]

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[174] Vide http://www.un-documents.net/ocf-11.htm#III
[175] Adalina Maria Mensah and Luciana Castro ,'Sustainable Resource Use and Sustainable Development: A Contradiction?' (2004), ZEF, Centre for Development Research, Unversity of Bonn. Vide http://www.zef.de/fileadmin/downloads/forum/docprog/Termpapers/2004_3b_Mensah_Castro.pdf
[176] Tige Geoghegan, Post 2015: Framing a New Approach to Sustainable Development, Policy Paper, Independent Research Forum 2015, March 2013. Retrieved from https://sustainabledevelopment.un.org/content/documents/1690IRF%20Framework%20Paper.pdf. Last accessed 19 October 2015
[177] ibid

The sustainable use of the oceans resources is a topic large discussed at successive conferences including the 1982 United Nations Convention on the Law of the Sea (UNCLOS).[178] As the concept of sustainable development continues to gain momentum, the General Assembly has now also begun to recognize it in its annual resolutions on oceans and the law of the sea.[179] This inclusion shows the GA's recognition of the mounting pressure exerted on oceanic resources from unsustainable human practices such as overfishing, illegal, unreported and unregulated fishing (IUU fishing), sea pollution and the unsustainable extraction of non-living marine resources.

In combating the above practices, which are merely a tip of the iceberg where threats to the world's oceans and seas are concerned, UNCLOS amongst other instruments, makes provision for various obligations and duties that signatory states must adhere to in promotion of the sustainable use and development of the marine environment.

Most notable of these provisions is Part XII, which deals with the protection and preservation of the Marine Environment.[180] As a general obligation, states have a duty to protect and preserve their marine environment, moreover, states shall, in the course of exercising their sovereign right to exploit their natural resources, do so in a manner that protects and preserves the marine environment. This is a classic example of a right, which breeds an ancillary responsibility aimed towards sustainable outcomes.[181]

Further to this, Article 194 of UNCLOS obligates States to take all measures necessary to prevent, reduce and control pollution of the their marine environment

[178] United Nations Conference on Sustainable Development held in Rio in 2012
[179] Miguel de Serpa Soares, Opening remarks at the United Nations Office of Legal Affairs OLA/DOALOS Side Event, NATIONS "The role of UNCLOS in sustainable development". Retrieved from http://legal.un.org/ola/media/info_from_lc/mss/speeches/MSS_DOALOS_Side_event-3-Feb-2014.pdf. Last accessed on 15 October 2015

[180] Articles 192 and 193, Part XII Protection and Preservation of the Marine Environment, UNCLOS
[181] Ibid

as well as to take all measures necessary to ensure that activities under their jurisdiction or control are so conducted in a manner that does not cause damage by pollution to other states and their environment. States shall endeavor to harmonize their policies in line with the overall ethos of UNCLOS and Namibia has done so effectively in various instances:

The Prevention and Combating of Pollution of the Sea by Oil Amendment Act, 1991(Act No.24 of 1991) was promulgated to provide for the prevention and combating of pollution of the sea by oil; to determine liability in certain respects for loss or damage caused by the discharge of oil from ships, tankers or offshore installations; and to provide for matters connected therewith.[182]

In the Environmental Management Act, 2007 (Act No. 7 of 2007), the legislature seeks to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. The act defines sustainable development as-

> *[h]uman use of a natural resource, whether renewable or non-renewable, or the environment, in such a manner that it may equitably yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations including the maintenance and improvement of the capacity of the environment to produce renewable resources and the natural capacity for regeneration of such resources;*[183]

In addition to clearly defining what the act seeks to achieve through sustainable development, section 6 of the Act establishes a Sustainable Development Advisory Council, with the mandate to promote co-operation and co-ordination between organs of state, non-governmental organizations, community based organizations, the private sector and funding agencies, on environmental issues relating to

[182] The Prevention and Combating of Pollution of the Sea by Oil Amendment Act, 1991(Act No.24 of 1991)
[183] Environmental Management Act, 2007 (Act No. 7 of 2007)

sustainable development. The Council is also responsible for advising the Minister of Environment on the development of a policy and strategy for the management, protection and use of the environment as well as any appropriate methods of monitoring compliance with the principles on sustainability.[184]

According to section 3(2) of the Marine Resources Act, the management, protection and utilization of marine resources in Namibia and Namibian waters shall be subject to this Act. This provision effectively makes the MRA the chief legislation were conservation and protection or the marine environment is concerned. The same Part of the Act authorizes the Minister to determine the general policy with regard to the conservation and utilization of marine resources in order to realize the greatest benefit for all Namibians both present and future.[185] More particularly, the Minister of the MFMR is empowered by the MRA to make regulations necessary or expedient for the carrying out and giving effect to the provisions of international fisheries agreements or any amendment thereof. This section serves as the legislative basis on which Namibia has effectively espoused the obligations and rights set out in UNCLOS into its domestic laws and policies.[186]

United Nations Fish Stock Agreement (UNFSA)

The 1995 United Nations Fish Stock Agreement (UNFSA)[187] was signed on 4 December 1995 and took effect on 11 December 2001. Namibia ratified the UNFSA on 8 April 1998 and is thus subject to its provisions. Seventy-Eight (78) States and entities have ratified the UNFSA. The agreement was initiated as a response to a fisheries management crisis involving a class of trans-boundary fishery resources.[188] These fish stocks were found both within the coastal State's EEZ and

[184] Section 6, Part IV Sustainable Development Advisory Council, Environmental Management Act, 2007 (Act No. 7 of 2007)
[185] Section 2, Part II General Policy for Conservation of and control over Marine Resources
[186] Regulations relating to the exploitation of Marine Resources, No 241 of 2001
[187] The United Nations Agreement for the Implementation of the Provisions of the UNCLOS of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.
[188] Ensuring the Sustainability of Pacific Tuna: The United Nations Fish Stocks Agreement (UNFSA); Available at www.wwfpacific.org.fj

the adjacent high seas. While most of the threat resulted from overfishing and the prevalence of “illegal, unreported and unregulated” (IUU) fishing in the high seas with migratory fish species and straddling stock - the root cause of the crisis, UNCLOS failed to specify operational qualifications and the migratory habits of species, and these shortcomings gave rise to the UNFSA.[189]

The UNFSA is based on the basic principles set out in the UNCLOS, which declare that States should cooperate to ensure conservation and promote the best utilization of fisheries resources both within and beyond the EEZs. Article 1(1)(d) of the 1995 UN Straddling Fish Stocks Convention specifies that arrangements in the form of “cooperative mechanisms” need to be established on a “regional or sub-regional basis”, with the purpose to “formulate conservation and management measures for one or more straddling fish stocks or highly migratory fish stocks”.[190]

The primary objectives of the agreement are to:

(a) ensure the long-term and sustainable straddling and highly migratory fish stocks beyond areas of national jurisdiction; and
(b) greatly improve the international management of fishing on the high seas based on the precautionary approach and the best available scientific information.

In its effort to advance the objectives of sustainable use of straddling and highly migratory fish stocks, the UNFSA further crystallizes an ecosystem-based approach 24 to fisheries management, emphasizing concepts such as:

> (a) Unity of stocks and the need for management of stocks over their entire range;
> (b) the imperative for compatibility of EEZ and high-seas fisheries regimes;

[189] ibid
[190] Article 1 (1995) United Nation Fish Stock Agreement, A/CONF.164/37 at p. 3.

(c) a concern with the catch of non-targeted species and the interdependence of stocks;
(d) the need for a precautionary approach to fisheries management; and
(e) transparency in the decision making and activities of the regional fisheries management organisations and arrangements.

The UNFSA also provides means with which to give effect to this new conceptualisation of fisheries management, stressing the role and responsibility of regional fisheries bodies to ensure protection of stocks in areas beyond the jurisdiction of coastal states

These two international instruments (UNCLOS and the UNFSA), while pivotal in their own right, do not provide a uniform design for the application of international or regional cooperation; thereby it necessitates and requires the implementation of regional mechanisms for fisheries management. This creates a mutually reinforcing relationship in which the regionally based mechanisms give effect to, and implement the provisions of, the two international conventions at a more **detailed level, tailored to suit the unique requirements of different environmental regions around the world, while the two conventions give international legal legitimacy and provide a solid framework from which these mechanisms may develop.**

Since the late 1960s and early 1970s, fisheries in the South East Atlantic reached their maximum production levels, to the extent that outputs since then indicate a general downward trend in total catches. Trans-boundary monitoring, assessment and management of fishery has been regionally and internationally recognised as a principal factor in management and policy considerations.

Innovative regional strategies are necessary as a means to recover depleted and declining fish stocks, as well as to halt any further degradation of the ecosystem

in the medium to long term.

Sustainability provisions under the FAO, Code of Conduct for Responsible Fisheries

The Food and Agriculture Organization (FAO) of the United Nations was established on October 16, 1945 to assist with; the eradication of hunger, food insecurity and malnutrition as well as to promote the sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations.[191] Emphasis in this chapter will be on the FAO's third objective, that is, the sustainable management and utilization of natural resources in particular marine resources and fisheries with the view of providing the world's growing population with both food and livelihoods.

It has been forecasted that the world's population will have increased to 9 billion people by 2050. The geographical areas that are predicted to experience some of the highest growth rates occur in regions that are highly dependent on the agriculture sector (crops and livestock), forestry and fisheries and have high rates of food insecurity. It has thus become crucial to ascertain that these areas are well equipped to deal with the expected population increase. Competition over natural resources, such as land, water and oceans, is intensifying and in many places is leading to the exclusion of traditional users from resources and markets, the FAO's vision for sustainable development of marine resources consequently requires integration across the sector and of social, economic and environmental considerations.[192]

The establishment of a new legal regime for the oceans and seas brought about

[191] Vide www.fao.org
[192] Retrieved from http://www.fao.org/about/what-we-do/so2/en/. Last accessed on 19 October 2015.

many changes.[193] As an imperative, coastal States were recognized as having rights and responsibilities for the management and use of fishery resources within their EEZs, which embrace some 90 percent of the world's marine fisheries. Although this extension of national jurisdiction proved amiable, it remained insufficient in the mammoth task of efficient management and sustainable development of fisheries. Despite their best intentions to, many developing coastal States continued to face serious challenges with regard to implementing UNCLOS provisions, difficulties largely stemming from a lack of experience and inadequate financial and physical resources. In an effort to assist these nations to manage their marine resources better and thus extract greater benefits from their fisheries, the FAO Governing Bodies recommended the formulation of a global Code of Conduct for Responsible Fisheries which would be consistent with instruments such as UNCLOS, Agenda 21 and the United Nations Fish Stocks Agreement[194].

The Code of Conduct is a non-mandatory international instrument, which establishes principles and standards applicable to the conservation, management and development of all fisheries. The Code, which was unanimously adopted on 31 October 1995 by the FAO Conference, provides a necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment. Obligations created in the Code and the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (more commonly known as the "Compliance Agreement, are eloquently provided for in Namibian law. Accordingly, the Minister of Fisheries and Marine Resources is empowered to make regulations necessary to give effect to any fisheries or international agreements entered into by Namibia. The replacement of the Sea Fisheries Act of 1992 with the Marine Resources Act of 2000 was necessitated also, by this fact, whereby the

[193] In 1982, UNCLOS established a new international legal regime for oceans and seas, which established *inter alia*, limits of maritime zones, rights of passage and navigation and provisions for the conservation and management of marine living resources.
[194] The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

Legislature sought to domesticate new international best practices and standards previously not incorporated into its laws.

Texts of all conservation and management measures adopted under any international agreement to which Namibia is a party must be published in the national Gazette, after this, the respective measures are then deemed to be a regulation as prescribed under the relevant Act.

Reports on Namibia's progress in this regard are published by the FAO's Fisheries Department in Fishery Country Profiles (FCP). Each FCP summarizes the Department's assessment of activities and trends in fisheries and aquaculture for the country concerned; the last publication on Namibia was conducted in 2007.[195]

The FAO encourages that countries adopt appropriate measures, based on the best scientific evidence available, which are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing countries. This concept was and continues to be the cornerstone on which Namibia manages its fisheries resources whereby rights are granted, total allowable catches are set on the basis of research results and quotas are subsequently issued to rights holders.

In recognizing that long-term sustainable use of fisheries resources is the overriding objective of conservation and management, the FAO has adopted the Ecosystem Approach to Fisheries (EAF) as the appropriate and practical way to fully implement the Code of Conduct for Responsible Fisheries.[196]This is the second tool under the FAO that Namibia has adopted in its efforts at attaining sustainable fisheries. Fishing rights and management are inseparable, because unless a fishery is

[195] Retrieved from http://www.fao.org/fi/oldsite/FCP/en/nam/profile.htm. Last accessed on 19 October 2015.
[196] The FAO Committee on Fisheries (COFI) has adopted the Ecosystem Approach to Fisheries as the appropriate approach to implement sustainable fisheries management.

sustainable the full value of the fishing right will not be realised. To get the sustainable fishing right, you need a sustainable environment - and that requires management (FAO).[197]

EAF is a risk-based management planning process that covers the principles of sustainable development including the human and social elements of sustainability, not just the ecological and environmental components. The FAO believes that the EAF is the practical way to implement sustainable development principles. Although the term 'Ecosystem Approach to Fisheries has been defined extensively, all enunciations of it include the need to maintain the ecosystem resources for their sustainable use, whist recognizing that human beings are an integral part of the process. So, while the term EAF can be misinterpreted because this name doesn't include the non-ecological components of sustainability, EAF not only deals with all the ecological consequences of fishing, but it also explicitly deals with the social and economic implications (good and bad) generated by the management and institutional arrangements related to fisheries.[198]

> *"An ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries."*
>
> *A primary implication is the need to cater both for human as well as ecosystem well-being. This implies conservation of ecosystem structures, processes and interactions through sustainable use. Inevitably this will require considering a range of frequently conflicting objectives where the needed consensus may not be readily attained without equitable distribution of benefits. In general, the tools and techniques of EAF will remain the same*

[197] Vide http://www.fao.org/docrep/003/x8985e/x8985e0d.htm
[198] Retrieved from http://www.fao.org/fishery/eaf-net/about/en. Last accessed on 19 October 2015

as those used in traditional fisheries management, but they will need to be applied in a manner that addresses the wider interactions between fisheries and the whole ecosystem. For example, catch and effort quotas, or gear design and restrictions, will be based not just on sustainable use of the target resources, but on their impacts on and implications for the whole ecosystem."[199]

The Ecosystem Approach to fisheries management in Namibia

Namibia's first inclination towards implementing an ecosystem approach in its fisheries management plan began in July 2000 with the Integrating the Human Dimension of an Ecosystem Approach to Fisheries into Fisheries Management in the BCC region Project. The project was funded by EAF-Nansen with technical advice being received from the FAO for a period of 30 months.[200]

The long term objective of the EAF-Nansen project was to strengthen regional and country specific efforts to reduce poverty and create conditions to assist in the achievement of food security through development of sustainable fisheries management regimes and specifically through the application of the ecosystem approach to fisheries in a number of developing countries at global level, with an early emphasis on Sub-Saharan Africa.

At its inception, the project goals were to drive the application of the conceptual framework of the Ecosystem Approach to Fisheries (EAF) through capacity building, promoting standardized data collection and monitoring, supporting policy development and management practices consistent with EAF principles and contributing to an expanded knowledge base. Providing fisheries research

[199] Fisheries and Aquaculture topics. The ecosystem approach to fisheries management. Topics Fact Sheets. Text by S.M. Garcia and K.L. Cochrane. In: *FAO Fisheries and Aquaculture Department* [online]. Rome. Updated 27 May 2005. Retrieved from http://www.fao.org/fishery/topic/13261/en. Last accessed on 21 October 2015.

[200] FAO has the overall responsibility for the implementation of the EAF-Nansen Project, in close collaboration with IMR, which is responsible for the operation of the R/V Dr Fridtjof Nansen and for providing scientific advice and technical inputs to the project. See http://www.fao.org/in-action/eaf-nansen/about/en.

institutions and management administrations in the participating countries with additional knowledge on their ecosystems for their use in planning and monitoring, remains one of the most imperative objectives in ascertaining that the principles of EAF will continue to be promoted and advanced long after a project has been completed. These key principles include that;

a) fisheries should be managed to limit their impact on the ecosystem to an acceptable level;
b) ecological relationships between species should be maintained;
c) management measures should be compatible across the entire distribution of the resource;
d) precaution in decision-making and action is needed because the knowledge on ecosystems is incomplete; and that
e) governance should ensure both human and ecosystem well-being and equity.

Later in 2002, Namibia alongside Angola and South Africa pledged to introduce the widely acclaimed concept into its shared regional fisheries management. The pledges were made at the World Summit on Sustainable Development in Johannesburg South Africa. The three (3) nations form part of the Benguela Current Commission (BCC), a multi-sectoral inter-governmental initiative, duly established in January 2007 to promote the vision of the Benguela Current Large Marine Ecosystem (BCLME). The chief vision of the BCC is to develop an ecosystem that is sustainably used and managed, conserved, protected and contributes to the wellbeing of the people of the region. Since then, the BCC has served as an instrument through which the countries have introduced an "ecosystem approach to ocean governance" in their region, collectively working together to manage their marine environment.

In May 2011, the BCC launched a joint research project called ECOFISH that was

aimed at realizing the commitments made by the nations to introduce ecological fisheries management. In addition to this, the project was driven to help modernize and improve the management of key marine fisheries in the region, improve scientific assessment of horse mackerel, hake and sardinela, which are the three (3) most important fish stocks in the BCLME for securing prosperous fishing industries and improving the livelihoods of fishermen and industry workers. At its inception, ECOFISH was funded by the European Union to the tune of 1.5 million Euros and was expected to run for a 5-year period until 2015. The intended outcomes of ECOFISH were to improve the BCC's capacity to generate new data whilst processing existing data more effectively as well as to improve the collection of socio-economic data, and ensure that the knowledge of fishers and fishing communities is taken into account, thereby improving fisheries management.

The BCC views EAF as a modern approach to fisheries that has the potential to greatly improve the health of marine ecosystems and in so doing promote the sustainable use thereof. The ecological approach is preferred to traditional fisheries management approaches and has been formally adopted by the FAO Committee on Fisheries (COFI) as the appropriate and practical way to fully implement the Code of Conduct for Responsible Fisheries. In its Technical Guidelines for Responsible Fisheries, the FAO makes note of "Special Requirements of Developing Countries" when implementing improved fisheries management.[201] These requirements highlight the general difficulties experienced by developing nations especially when modifying their inherent systems to become more sustainable. The provisions thus encourage developed states to support their counterparts in initiatives where necessary and to share knowledge on best practices and standards in the implementation of EAF. The funding allocated to the ECOFISH project by the European Union and the Norwegian government may well have been compelled by this and can be noted to have strengthened international cooperation between

[201] FAO, in accordance with its mandate, is fully committed to assisting Member States, particularly developing countries, in the efficient implementation of the Code of Conduct for Responsible Fisheries and will report to the United Nations community on the progress achieved and further action required.

developed and developing states.[202]

In the regional context, Namibia seems to have made significant strides in the attaining a sustainable fisheries sector via the ecosystem approach. The country did this by aligning itself through the BCC with Angola and South Africa, thus benefiting from the plethora of shared insight and experience the team has as well as the funding for more research and data collection the alliance has been able to raise. The question does however stand as to whether Namibia has effectively domesticated the ECOFISH regional framework for the ecosystem approach to fisheries into its national policies and whether the principles gauged from the EAF-Nansen Project are effectively being practiced today? The questions that immediately come to fore are multifold;
What has Namibia done since 2011 to build healthy and resilient ecosystems? What are some of the tangible outcomes of the implemented approach?

After 15 years since EAF was first formally introduced into fisheries management, Namibia must now give evidence as whether it has indeed positively mobilized the reduction of human impact on marine ecosystems or whether it has contributed to its further degradation through omission. The answer to this is not easy and although EAF has been accepted as the preferred way to address fisheries management questions, implementation in Namibia is noted to having been slow. A key barrier is that managers are not yet equipped with the tools or the required information to grapple with the many sociopolitical issues around managing fisheries.[203]

While EAF seeks to improve all fishery management processes by adopting risk management principles it also recognizes that complete knowledge is never available and that processes must sometimes be started without it. The EAF

[202] Paragraph 30c of the Plan of Implementation of the World Summit on Sustainable Development, Article 5 of the Code of Conduct and the 2001 Reykjavik Declaration are all aimed at supporting developing countries in incorporating ecosystem considerations into fisheries management.
[203] Roux, J-P; Shannon, LJ, Ecosystem approach to fisheries management in the northern Benguela: The Namibian experience

process begins with the identification and assessment of all relevant issues and the establishment of participatory processes to help address high priorities effectively and efficiently. The most superlative decisions are made with the information available by using a precautionary and an adaptive approach that manages risk and improves knowledge whilst adjusting decisions. Implementing EAF helps to develop comprehensive fishery management systems that seek the sustainable and equitable use of the whole system (ecological and human) to best meet the community's needs and values.

Section 2.2:

Sustainable Fisheries: Elements of Success/Strengths in Namibia's approach

2.2.1: A discussion of the core challenges Namibia faced to achieving genuinely effective and sustainable fisheries.

In order to identify the elements of success achieved by Namibia in attaining a sustainable fisheries sector, one must first inspect the various challenges the country faced at the beginning of its journey in 1990. It is only after reviewing the current status of these challenges that one is able to truly gauge the victory of the actions employed to rectify them. This section focuses on six (6) challenges, namely; (a) reconciling utilization and conservation of marine fish stocks; (b) fisheries economics; (c) fisheries management; and (d) Empowerment of previously disadvantaged (Namibianisation Policy); (e) Product quality and standards in trade; and (f) Monitoring, Control and Surveillance.

To reconcile these issues, regard is given to the different stakeholders in the fisheries sector i.e. the government, economic players and the general public. Any legal reform process in Namibia will normally proceed a thorough national consultation with all relevant stakeholders. The objective of these consultations will be to gauge and consolidate the various stakeholder perspectives on stated issues.

(a) Reconciling utilization and conservation of marine fish stocks

Of the 600 worldwide marine fish stocks monitored by FAO; 3% are underexploited; 20% are moderately exploited; 52% are fully exploited; 17% are overexploited; 7% are depleted; and 1% are recovering from depletion.[204] As previously intimated Namibia inherited both overexploited and depleted fish stocks at its independence, this means that people were taking far more fish out of the ocean than could be replaced by those remaining. Overfishing is a clearly non-sustainable practice that is driving ocean ecosystems towards a composition that is increasingly dominated by lower trophic levels, a result which continues to haunt Namibian waters to date (Beddington, 1995:p213). Unless the current situation improves, stocks of all species currently fished for food are predicted to collapse by 2048.[205]

According to the FAO Southeast Atlantic Area 47[206] report, fully depleted stock levels have been reached for Namibian Cape Rock Lobster. Overexploited stocks are in relation to the Cape Hake and Orange Roughy.[207] Poor fisheries management, massive bycatch of juveniles and other marine species and destructive fishing practices largely caused the overfishing in Namibian waters.

To combat these instigates, the country first and foremost articulated its turnaround strategy for overfishing in its first legislative instrument, the Sea Fisheries Act (SFA) and later the Marine Resources Act (MRA). The Acts started the paradigm shift from old productivism to responsible fisheries and formally adopted a rights based management approach to Namibian fisheries, according to which the MFMR would

[204] General situation of world fish stocks. United Nations Food and Agriculture Organization (FAO). Retrieved from http://www.fao.org/newsroom/common/ecg/1000505/en/stocks.pdf. Last accessed on 25 October 2015
[205] Worm, B. et al (2006) *Impacts of biodiversity loss on ocean ecosystem services*. Science, 314: 787. Retrieved from http://wwf.panda.org/about_our_earth/blue_planet/problems/problems_fishing/. Last accessed on 25 October 2015.
[206] Area 47 is the ocean area under which Namibia is clustered for fish stock assessment purposes by the FAO.
[207] General Situation of World Fish Stocks. United Nations Food and Agriculture Organization (FAO). Retrieved from http://www.fao.org/newsroom/common/ecg/1000505/en/stocks.pdf. Last accessed on 25 October 2015

now manage exclusive entitlements thereby tackling the open access regime which brought about the issue of overfishing in the first place.

The MRA sets out various prerequisites for harvesting marine fisheries, accordingly, any person wishing to exploit or harvest marine resources must first be granted a right to harvest.[208] The abolishment of the open access regime, which preceded independence now meant marine resources, could be better controlled and managed for the purposes of sustainability. Moreover, the Minister of MFMR may, from time to time, set a total allowable catch to limit the quantity, which may be harvested in respect of any marine resource in a given period. [209]

The harvesting of Namibian fisheries resources is subject to quotas, which are granted to rights holders on the satisfaction of various requirements.[210] Through quotas, the MFMR regulates fishing and sets a species-specific total allowable catch (TAC), typically by weight and for a given time period. The principle intention of TACs is to prevent the 'tragedy of the commons' in fisheries thereby restricting access to fishing grounds and limiting the Total Allowable Catch (TAC) by fishing fleets.[211]

In adopting the RBM approach to its fisheries, Namibia introduced elements of stakeholder responsibility with well-defined rights and thereby created incentives for long-term planning and stewardship. The effect of these policies has been to prevent the collapse of severely depleted fish stocks as well as to restore declining fisheries. Namibia continues to seek a workable balance between utilization and conservation and is party to a plethora of international instruments (both binding

[208] Section 32 Marine Resources Act, (Act No 27 of 2000)
[209] Section 38(1) Marine Resources Act, (Act No 27 of 2000)
[210] When considering applications for fishing rights, the Government takes into consideration the applicants competence in fishing and operating the vessel, extent to which Namibians are or will be involved, and investment in the sector as well as required development.
[211] The Economics of Fishing and Fisheries Economics. Retrieved from: https://www.ashgate.com/pdf/SamplePages/Economics_for_Fisheries_Management_Ch1.pdf. Last accessed on 26 October 2015

and non-binding), which uphold these principles. The policy framework provided for in many international instruments, such as UNCLOS has assisted Namibia in formulating its own, and because of this, UNCLOS is regarded as the pillar of regulation of fisheries and marine related activities in the country. The adherence to UNCLOS provisions has ensured sustainable utilization and the conservation of biodiversity and ecosystem integrity.[212] Application of conservation policies and sustainable development are marine resources are avenues aggressively promoted by the MFMR. As off end of 2015, Political will, will now have on two (2) occasions amended national legislation to promote contemporary international best practices and standards that reconcile utilization versus conservation of aquatic resources and ecosystems.[213]

(b) Fisheries Economics

Historically, the emphasis was given to the fish. More recently, it has been seen to be necessary to pay more attention to the complex of social, economic, and political factors that drive the behavior of fishermen as individuals and fisheries as systems. Peter Larkin (1978, p. 57) in Fisheries Management – An Essay for Ecologists.

An economic perspective of fisheries management is that marine resources should be managed sustainably, but also in a way that they contribute to and provide net benefits for the nation as a whole. Below are various statistics of the economic attributes stemming from the Fisheries sector from 2005 until 2011 showing that economically profitable fisheries are complementary.[214]

[212] Ichiro Nomura, Sustainable Fisheries: Elements of Success
[213] In 2000, the Sea Fisheries Act was repealed and replaced with the Marine Resources Act in order to better articulate new international provisions that the country had acceded to since its independence in 1990. In 2015, the MFMR is again looking to have the MRA amended in order provide for more robust and conservative fisheries practices.
[214] Retrieved from: http://209.88.21.36/opencms/opencms/grnnet/MFMR/Fishing_Industry/statistics.html. Last accessed on 26 October 2015.

Revenue Generated

The table below is indicative of the revenues collected from the fishing industry per year as from 2006-2011. In 2010 the revenue collected increased by 18.4% from N$96 029 in 2009 to N$113 782 in 2010. An increase in revenue collected continues on the upward trend, and has increased by 25.2% in 2011 compared to the collection in 2010. This increase of revenue collected is attributed to the outstanding quota fees mainly in hake fishery after the MFMR put into place stern measures for the fishing industry to settle their outstanding quota fees. The reduction in revenue collected in 2008 and 2009 could be attributed to the global economic crises.

Fees	2006	2007	2008	2009	2010	2011
Quota fees	68,299	107,218	59,255	68,800	78,500	120 947
Marine Resources Fund levy	12,446	12,561	12,075	18,733	19,228	14,497
By-catch fees	11,199	9,639	10,837	8,410	15,972	6,964
License fees	93	91	85	86	82	79
Total revenue	92,037	129,509	82,253	96,029	113,782	142,487

Table 9: State Revenue from the marine fishing industry, 2005-2010 (N$ thousands, current value)
Source: MFMR, 2010

Licensed Fishing vessels

Fishery	2006	2007	2008	2009	2010
Small pelagic	16	9	11	10	8
Demersal Trawlers	78	87	91	71	63
Longliners	39	30	18	18	13
Midwater	10	13	10	9	9
Deepwater	4	2	0	0	0
Large pelagic	65	67	88	48	40
Linefish	15	15	15	15	14
Crab	2	2	3	3	3
Rock lobster	18	32	31	29	33
Monk	22	20	25	16	16
Total	**269**	**277**	**292**	**219**	**199**

Table 10: Licenced Fishing Vessels from 2006-2010

MRMR, 2010

During 2010 a total number of 199 vessels were licensed to operate in the Namibian Exclusive Economic Zone (EEZ). As can be observed, this was a slight decrease from 2009 where 219 licences fishing vessels were previously recorded. The decrease is mostly attributed to the demersal trawlers, long-liners and large pelagic fisheries. According to MFMR the decrease is a consequence of the reduction of the Hake Total Allowable Catch (TAC) which resulted in lower hake quota allocations for individual right holders and in return right holders adjusting their catching capacity accordingly. As for the large pelagic fishery, the decline can be attributed to management measures that were introduced in this sector towards the end of 2008 and were still maintained in the years that followed.[215]

[215] Fishing Industry Statistics, MFMR 2010. Vide http://209.88.21.36/opencms/opencms/grnnet/MFMR/Fishing_Industry/statistics.html

Total allowable catches

The Namibian Marine Resource Policy towards Responsible Development and Management of the Marine Resources Sector is the principal document on which the MFMR sets an annual Total Allowable Catch (TAC) for all major commercial fisheries. The objective of TAC's is to manage fisheries resources sustainably and to prevent the overexploitation thereof. The proceeding table is indicative of the TACs previously set by the MFMR during the five (5) year period between 2006 and 2010.

Year	Pilchard	Hake	Horse Mackerel	Red Crab	Rock Lobster	Orange Roughy	Monk
2006	25 000	130 000	360 000	2 400	420	1 100	9 500
2007	15 000	130 000	360 000	2 500	350	900	9 500
2008	15 000	130 000	230 000	2 500	350	900	9 500
2009	17 000	149 000	230 000	2 700	350	N/A	8 500
2010	25 000	140 000	247 000	2 700	275	N/A	9 000

Table 11. Total Allowable Catches in tonnes

MFMR, 2010 N/A =Not Applicable

From the above it can be observed that during the 2010 period, an increase in the TAC occurred in the pilchard, horse mackerel and monk fisheries in comparison to the 2009 information. As for hake and rock lobster a decrease in the TAC was observed compared to 2009. Furthermore, for the red crab fishery the TAC was

maintained at the same level as 2009. The Orange Roughy fishery is still in a moratorium as of 2009.[216]

	2006	2007	2008	2009	2010
Value of Production (N$ in million)					
Landed value	3,146	3,772	4,290.4	5,087.4	3,749.4
Final Value	3,985	4,843	5,084.1	4,789.3	4,059.8
Value of Exports (N$ in million)					
Fish Products	3,883	4,711	4,934.5	4,637.3	3,926.8
% of Total Export	18,9	17	14	15	13

Table 12: Fisheries Economic and Production Indicators, 2006-2010

Source: MFMR 2010

Landed Value

Landed value relates to the value of the fish in the form it is landed (i.e.) at ex vessel prices. Landed value reduced by 26% between the years 2009 and 2010 from N$5,087.4 million to N$3,749.4 million respectively. The reduction in the landed and export values can be attributed to the negative effect of the economic crisis in the major markets that led to reduced prices of some fish and fish products. Low landings by about 10% could also be the reason for the significant reduction.

Final value

This is the value of fishery products in their final form at export (ex factory) prices. As can be seen from the above table, the final value is higher than landed

[216] Fishing Industry Statistics, MFMR 2010. Vide http://209.88.21.36/opencms/opencms/grnnet/MFMR/Fishing_Industry/statistics.html

value. The difference is accredited to value addition by onshore fish processing. During 2009, final value was N$4,789.3 million which, reduced by 15% to N$4,059.8 million in 2010 because of reduced prices of most products and landings accordingly.

Export value

This indicator gives the Namibian dollar parity of foreign currency earnings brought into Namibia due to the sale of fish and fishery products. Namibia's fishing industry remains the country's second biggest export earner of foreign currency after mining. Export value reduced by 15% between 2009 and 2010 from N$4,637.3 million to N$3,926.8 million respectively.

Contribution to GDP

Looking at its contribution to Gross Domestic Product (GDP) can assess the level of output in the fishing sector. Over the past several years, the fishery sector has positioned itself as one of the major contributors to the Namibian GDP. The sector's contribution to GDP is essentially the gross income earned, wages and salaries, gross profits and indirect revenues from fish production. It does not, include the value of intermediary inputs and it is therefore much less than the value of production.[217]

The table below shows estimates of the contribution of the fishing sector to GDP at current prices, from processing on shore and fishing and fish processing on-board. The revised figures were estimated using rebased prices of 2004 from the previously used base year of 1995. The fishery sector contributed 4.6% in 2009, compared to 3.7% contributed in 2010, representing a 20% reduction.

[217] Fishing Industry Statistics, MFMR 2010. Vide http://209.88.21.36/opencms/opencms/grnnet/MFMR/Fishing_Industry/statistics.html

	2006	2007	2008	2009	2010
Fishing	1,948	2,330	2,411	2, 523	2,177
Fish processing	657	903	993	950	785
Total contribution	**2,605**	**3,232**	**3,404**	**3,473**	**2,962**
Percentage of GDP	4.8	5.3	4.7	4.6	3.7

Table 13: Fishing Sector Contribution to GDP 2006-2010

MFMR & NPC, 2011

The price of fuel hit a record level of U$140 per barrel in June 2008 from a 2007 average of U$72.32 per barrel, high operational costs such as these had an adverse effect on fishing companies who were subsequently forced to fork out more money on operational costs than usual. The favourable exchange rate against the American dollar (US$) and the euro (€) during the last two quarters of 2008 saw Namibia earn foreign gains from its fish and fish products.

The above statistics not only serve to illustrate whether or not Namibia's rights based management approach to its fisheries has been effective or not, but they also shed light on fisheries economics and effectively illustrate the rate at which the fishing industry has contributed to the country's GDP, making it a prominent and economically viable sector.

(c) Empowerment of previously disadvantaged (Namibianisation Policy)

When discoursing the elements of success that Namibia has employed to overcome dwindling fish stocks, one would be remiss to exclude the 'famed' Namibianisation policy. As previously outlined, the Namibianisation policy is a national strategy to develop the fishing industry in a sustainable manner whilst empowering or

benefiting the historically disadvantaged Namibians.[218] Whether or not the strategy has indeed been effective in doing so is a topical debate. Some have argued that the current state of fisheries benefits mostly the economically well-off businesses in the fishing industry and much less the previously disadvantaged Namibians. Another concern of the Namibianisation policy is the tax revenue that the government forgoes at the expense of the fee rebates given to Namibian rights holders. Tax rebates to Namibian rights holders were introduced in 1993 by the MFMR as an incentive to local fishing companies. In 1996 for example, the total fee rebates resulted in a loss of about 72% of the potential quota fee revenues.[219]

Whilst the above attribute may be disconcerting, the national gains that have resulted from the Namibianisation policy are more substantial. Firstly, the strategy is regarded to have elevated Namibian ownership of fishing vessels from about 60% in 1993 to 85% in 1998.[220] The employment of Namibians in the fishing industry has also increased as a direct result of the said policy, from just fewer than 55% in 1991 Namibians made up 75% of the workforce in the fishing industry just 7 years later. The benefits accrued to a country with a large employed population are varied, especially viewed from an economic perspective. Other advantages of the Namibianisation policy are listed as follows: i) Namibia has succeeded in capturing a noble percentage of the potential rent from its fisheries compared to other fisheries in the world; ii) Namibian and black ownership of fishing companies has increased since independence; iii) Namibian pension and insurance funds have benefitted from shareholding in Namibian fishing companies; and iv) Namibian ownership has created greater income/tax revenues.[221]

[218] Panduleni Elago, 'Duration of Fishing Rights and Investment: An Empirical Study of Investment in Namibian Fisheries', (2004), Ministry of Fisheries and Mariine Resources (MFMR) Directorate of Policy, Planning and Economics, Windhoek, Namibia
[219] Claire Armstrong et al, '10 Benefits and Costs of the Namibianisation Policy, (2004), National Marine Information and Resource Centre MFMR, Report on the Activities and the state of the Fisheries Sector, (1998), Windhoek Namibia
[220] ibid
[221] Oelofsen BW. Fisheries Management: The Namibian Approach (1994). ICES Journal of Marine Science 56, 999-1009

With the Namibianisation Policy, it is hoped that other fishing nations, particularly those developing countries whose marine resources are still being exploited by foreign vessels, can learn from Namibia's example on how to export more benefits from the fishing industry for its own people.[222]

(d) Monitoring, Control and Surveillance

The Fisheries and Aquaculture Department of the FAO has defined MCS as the mechanism for implementation of agreed policies, plans or strategies for oceans and fisheries management. MCS activities involve the gathering of data, quality control of this data, which is then inputted for stock assessment purposes. Moreover it involves social and economic and enforcement exercises that comprise the components of fisheries management as well as safety at sea.[223]

MCS is regarded as key to the successful implementation of any planning strategy and the absence thereof renders a fisheries management scheme incomplete and ineffective.[224] An imperative principle in setting up an MCS system is that the cost of the system must generally be subordinate to the value of the resource. Fisheries administrators must therefore consider this principle when selecting a regulatory measure or set of measures for a fishery. This cost consideration was duly made in Namibia shortly after independence.[225]

The Rome 1981 MCS Conference of Experts sought to define and interpret MCS as:[226]

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[222] Claire Armstrong et al, '10 Benefits and Costs of the Namibianisation Policy, (2004), National Marine Information and Resource Centre MFMR, Report on the Activities and the state of the Fisheries Sector, (1998), Windhoek Namibia
[223] P.Flwwelling, 1994, An Introduction to MCS Systems for Capture Fisheries, FAO, United Nations
[224] AO 2005-2015. Fisheries and Aquaculture topics. Monitoring, Control and Surveillance. Topics Fact Sheets. Text by G.V. Everett. In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 27 May 2005. [Cited 29 October 2015]. Vide http://www.fao.org/fishery/topic/3021/en
[225] C Ogley, The Law of the Sea Draft Convention and the New International Economic Order, Marine Policy, 5(3), Butterworth, Oxford, 1981.
[226] FAO 1981. Vide http://www.fao.org/docrep/003/v4250e/V4250E03.htm.

- **monitoring** - the continuous requirement for the measurement of fishing effort characteristics and resource yields;
- **control** - the regulatory conditions under which the exploitation of the resource may be conducted; and
- **surveillance** - the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.

MCS is based on 3 (three) components, namely land, sea and air, which, depending on cost, commitment, and organizational structure (national, sub-regional, or regional), will be configured uniquely for each system.[227] The MFMR refers to these components as MCS resources in addition to remote and support resources. The components define the key management groups that are used in the planning and execution of MCS activities.[228]

The land element or resource of MSC serves as the base of operations, aiding the inland, freshwater, and coastal aspects of fisheries monitoring, control and surveillance. MCS activities, regulation and deployment of available resources to enhance the dynamic nature of fisheries will normally be coordinated from the land component. Further to this the land component is also responsible for port inspections and the monitoring of transshipments and trade in fish products to ensure compliance with fisheries legislation.[229]

The sea component of MCS relates to tangible technology, inclusive of radar and vessel platforms used for surveillance of the national, sub-regional or regional maritime zones of control.[230] The Namibian EEZ is patrolled by 2 (two) vessels, namely, the P/V “Tobias Hainyeko” and the P/V “Oryx”. The vessels serve the

[227] AO 2005-2015. Fisheries and Aquaculture topics. Monitoring, Control and Surveillance. Topics Fact Sheets. Text by G.V. Everett. In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 27 May 2005. [Cited 29 October 2015]. http://www.fao.org/fishery/topic/3021/en
[228] MFMR, 2004
[229] AO 2005-2015. Fisheries and Aquaculture topics. Monitoring, Control and Surveillance. Topics Fact Sheets. Text by G.V. Everett. In: *FAO Fisheries and Aquaculture Department* [online]. Rome. Updated 27 May 2005. [Cited 29 October 2015]. http://www.fao.org/fishery/topic/3021/en
[230] ibid

function of patrolling closed areas, boundary areas and conducting inspections at sea to ensure compliance with the MRA and its ancillary Regulations. Random inspections of fishing vessels fishing in Namibian waters are undertaken at sea from the said patrol vessels by contracted observers. These observers gather scientific information on the catches and provide on-site monitoring of compliance with fisheries regulations. Fishing offences such as dumping or discarding, fishing in closed areas, offshore pollution, misreporting of catch, retention of prohibited catch or use of illegal gear is reported at instance by the said observers.

The FAO opines that the air component of MCS is usually the first level of response to a coastal state/regional concern in its area of responsibility or interest.[231] This is largely due to the flexibility, speed and deterrence of air surveillance, which makes it a very useful and cost-effective tool for fisheries management. Compared to its counterparts, the air component to MCS also provides the cheapest and most rapid information collection on fishing effort in the zone of interest compared. When utilized effectively, air surveillance, not only provides initial information regarding the activity in the fisheries, but it can also be the first indicator of potential illegal activity in the zone. Aerial presence can serve as a visible deterrent to illegal fishing whilst also facilitating more effective deployment of the patrol vessels.[232]

Generally, high fish productivity in an EEZ will be limited to certain areas such as the continental shelf or small pockets of areas which contain high nutrient circulation from which marine fishery sustain themselves. It is estimated that of the 560 000 km2 area of Namibia's EEZ, only 230 000 km2 is productive. It is therefore on this basis that countries are advised to mark out the geographical areas of priority when setting up Monitoring, Control and Surveillance (MCS) systems.[233]

[231] Ibid

[232] PE Bergh, MCS in Namibia, MFMR. Vide ftp://ftp.fao.org/docrep/fao/field/006/ad495e/ad495e05.pdf

[233] B Hersoug and O Paulsen, 1996, Monitoring, Control and Surveillance in Fisheries Management, University of Namibia, Windhoek

The establishment of a sound MCS system in Namibia was justified by the impressionable revenue generated from fisheries, which was valued at N$90 million in the financial year 1993/94.[234] At the same time, expenditure for the fisheries administration was approximately N$35 million, giving a comfortable margin. It is noted that during this period, a large portion of the expenditure total was used for advancing surveillance activities, inclusive of sea and air patrols.[235] Be that as it may, Hersoug and Paulsen are quick to mention that the triumphs of Namibia's MCS system are partly due to the fact that grant and development aid money is not taken into consideration in the present equation and that the system is still in its development stage with more staff needed to make it fully functional. If all these factors were taken into consideration, the positive expenditure margin would be greatly reduced, pointing to the fact that MCS systems are expensive to establish and run.[236]

MCS in Namibia is an integrated system with 2 (two) Inspectorate Stations in Walvis Bay and Lüderitz. Both stations are tasked to deploy fishery officers to air, sea or land operations, deploy fisheries observers on board fishing vessels, as well as to analyse past operations and outputs or planning future operations.[237]

The quintessence of MCS is to regulate the fisheries sector activities within Namibia's EEZ of 200 nautical miles. Its main objectives relate to; (i) restricting fishing activities to those entitled to do so; (ii) ensuring that fishing activity is conducted within legal and administrative guidelines; and (iii) ensuring that revenue from landings is correctly calculated. The MFMR regards the deployment of Inspectors and Observers on fishing vessels as it is primarily activity in realizing these objectives.

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[234] MFMR, 2004
[235] ibid
[236] B Hersoug and O Paulsen, Monitoring, Control and Surveillance in Fisheries Management, University of Namibia, Windhoek, 1996, In: Mafaniso Hara, 1997, Southern African Marine Exclusive Zones: Burdens and Opportunities, Research Fellow, Centre for Southern African Studies, University of the Western Cape, Published in Monograph No. 9, Diplomats and Defenders, February 1997
[237] PE Bergh, MCS in Namibia, MFMR. Vide ftp://ftp.fao.org/docrep/fao/field/006/ad495e/ad495e05.pdf

Namibia's fisheries management controls fall into two categories, namely; input and output controls. Input controls regulate the fishing effort and gear used as well as the permissible time and place that fishing may take place, this is usually enforced through the limitation of total fishing effort and seasons. Part VII of the MRA outlines the aforementioned input management and control measures applicable to respective right holders.[238]

Output controls relate to set limits and regulations on the amount of fish that may be caught and on the size and other characteristics of the fish that may be landed.[239] The primary output control used in Namibia is the Total Allowable Catches (TACs) and quota allocations. TACs are established for six species (hake, horse mackerel, pilchard, orange roughy, red crab and rock lobster) as set out in the tables below, which show the pattern of TACs from 1993 to 2000.[240]

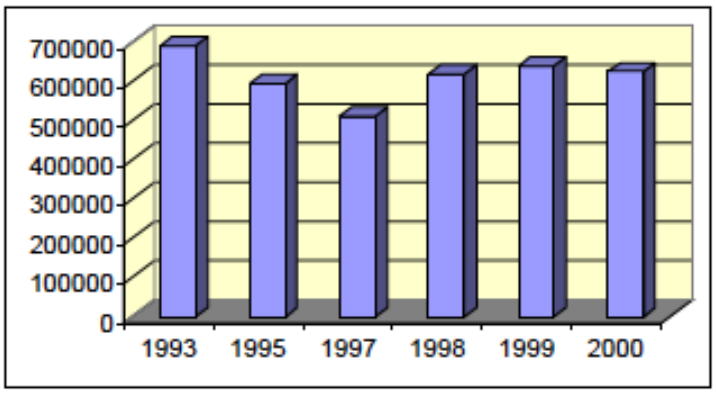

Table 14: Total Allowable Catches in metric tonnes 1993 to 2000

MFMR, 2004

[238] Sections 47 to 51, Part VII of the Marine Resources Act, 2000 (Act No. 27 of 2000)
[239] PE Bergh, MCS in Namibia, MFMR. Vide ftp://ftp.fao.org/docrep/fao/field/006/ad495e/ad495e05.pdf
[240] MFMR, 2004

Fishery	2006	2007	2008	2009	2010
Small pelagic	16	9	11	10	8
Demersal Trawlers	78	87	91	71	63
Longliners	39	30	18	18	13
Midwater	10	13	10	9	9
Deepwater	4	2	0	0	0
Large pelagic	65	67	88	48	40
Linefish	15	15	15	15	14
Crab	2	2	3	3	3
Rock lobster	18	32	31	29	33
Monk	22	20	25	16	16
Total	**269**	**277**	**292**	**219**	**199**

Table 15: Total Allowable Catches in metric tonnes 1993 to 2000

MFMR, 2004

As has been previously intimated, TACs are established annually on the basis of the best scientific evidence available of the size and structure of stocks, modified by socio-economic factors. The function of attaining this information is conducted by the Operations Division which is further mandated to provide advice on the state of commercially important marine fish stocks and give recommendations on their appropriate yields, provide appropriate management measures in relation to species and fish size limitations, closed seasons, closed areas, and limitations on the types and effectiveness of fishing gear.[241] When conducting Monitoring, Control and Surveillance functions the Operations Division makes use of various human and hardware resources which are dynamic and continuously being updated in order to promote higher standards of output whilst coping with more complex tasks.[242]

[241] MFMR, 2015. Vide http://www.mfmr.gov.na/about-minisrty
[242] ibid

Shortly after Independence, the government moved to ensure control over fishing activities in the EEZ by largely excluding the large numbers of foreign vessels that had been fishing without restrictions. Currently, one of the main resource management challenges remains the regulation of fishing capacity at a level consistent with the potential yield of fish stocks, i.e., fishing effort control.[243]

The attainment of maximum potential yields depends on the successful rebuilding of stocks using a complex mixture of both input and output controls. The challenge then, for the MFMR is to find a workable balance.[244] The MFMR has thus implemented for each fishery, a rebuilding strategy. These strategies can be deemed to have been successful if one looks at the TAC increases since 1990, noting that these upsurges were achieved amidst oceanographic events in the mid-1990s, which caused some TACs to decline. It is contemplated that the information and scientific analyses now available will further enable the Ministry to refine and improve its predictions in the future.[245]

It is generally opined that Namibia's current MCS system has been successful and is being well executed, however some experts have conceded that there are certain areas where improvements to the system can be made. Their suggestions are threefold and include: [246]

(i) setting realistic compliance levels to guide MCS development and operational planning;
(ii) improving the efficiency and effectiveness of MCS operational platforms; and
(iii) facing up to future financial implications.

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[243] PE Bergh, MCS in Namibia, MFMR. Vide ftp://ftp.fao.org/docrep/fao/field/006/ad495e/ad495e05.pdf

[244] ibid

[245] Improving the accuracy of predictive capabilities and results must be taken into account even though there may be political and economic pressures to maintain catches at levels supporting current investment in the fishing industry.

[246] Bergh, E. and Davies, S. 'Against all odds: Taking control of the Namibian fisheries'. In: Sumaila, U.R., Boyer, D., Skogen, M.D. and Steinshamn, S.I. (Eds). (2004). Namibia's fisheries: Ecological, economic and social aspects, p.2.Delft: Eburon Academic Publishers.

The third suggestion relates to the financial implications of changes in the fiscal framework of the MFMR and the organization of MCS. These are usually the result of fluctuations in fish stocks, capital repayment and running costs, changes in market demands, global political or social events or changes in the priorities of the Namibian government, *inter alia*.[247] Whatever is the driving force, the result may bring higher landings and a greater demand on the present resources, or lower landings and a reduction in revenue and consequently in the funds available for MCS operations. Optimal management of these new resources is vital if they are going to be cost-effective investments (Rukoro: 2014).

According to Flewwelling,(1994) both developed and developing nations that have MCS operations can be expedited with reduced costs and in an effective manner through bilateral, sub-regional or regional cooperative measures with neighbouring countries. Considerable cost savings can be realized through the appropriate use of licenses as control tools and as a source of information for management, planning and as an alternative to the free access fishing scheme whilst minimizing the cost to the ultimate resource owners, i.e. taxpayers. [248]

In terms of collaboration in the area of MCS activities, Namibia and South Africa concluded an agreement on 22 March 1991, for mutual assistance in enforcement activities against violators of the fishing laws of either country. [249] The agreement arose from the need for co-operation following the arrest of three Spanish vessels allegedly found illegally fishing in Namibian waters in March 1991. The gist of the agreement provides that the government of one country can be called upon to assist in apprehending or escorting offending vessels in the fishing waters of the

[247] ibid
[248] P Flewwelling, An Introduction to Monitoring, Control and Surveillance Systems for Capture Fisheries, FAO Technical Paper, 338, FAO, Rome, 1994

other, or in its own fishing waters for that matter.[250] Further to this, neither government will render any assistance whatsoever to any vessels that are or have been involved in catching fish illegally in the waters of either state. Upon notification and through the normal diplomatic channels, both countries have agreed to grant to the other the right to pursue and apprehend these vessels if and when they escape into its fishing waters. The success of the above agreement is indicative of the fact that MCS operations can be expedited with reduced costs and in an effective manner, through cooperation between nations.[251]

Research and scientific collaboration between Namibia, Angola South Africa is motivated by the similarities the countries have in terms of their west coast fish stocks and the subsequent formulation of BCC was a result of this acknowledgement.[252] Grey areas will normally exist in maritime boundaries since fish do not know or respect political borders when migrating. A practical scenario of this occurred in 1994, with the Pilchard stock migration from Namibian waters north into Angolan waters. The migration had enormous economical detriment to Namibia and also resulted in adverse environmental conditions such as low oxygen, upwelling's of sulphur from the seabed and unusually warm water. Namibia was consequently forced to reduce its Pilchard Total Allowable Catch (TAC) from 125 000 tons to 35,000 tons for 1995.[253] Joint research programmes and management strategies, information exchanges, and general scientific collaboration could have averted this problem and saved Namibia resulting loss. MCS collaboration between neighboring countries has therefore been recognized as a highly logical aspect to fisheries management having benefitted both developed and developing countries.[254] For example, Namibia and Congo's fisheries ministries signed a

[250] Mafaniso Hara,(1997), Southern African Marine Exclusive Zones: Burdens and Opportunities Centre for the Southern African Studies, University of the Western Cape. Published in Monograph No. 9, Diplomats and Defenders, February 1997
[251] P Flewwelling, An Introduction to Monitoring, Control and Surveillance Systems for Capture Fisheries, FAO Technical Paper, 338, FAO, Rome, 1994
[252] BCC, 2015. Vide http://www.benguelacc.org/index.php/en/about/what-is-the-bcc
[253] Fishing News International, May 1991.
[254] Mafaniso Hara,(1997), Southern African Marine Exclusive Zones: Burdens and Opportunities Centre for the Southern African Studies, University of the Western Cape. Published in Monograph No. 9, Diplomats and Defenders, February 1997

memorandum of understanding in 2011 that calls for co-operation in the fields of monitoring, control and surveillance, exchange of information on fisheries and aquaculture, research and stock assessment, training and support on joint ventures.[255] The practical advantages of regional MCS co-operation cannot be stressed enough in terms of efficiency, effectiveness and fisheries development, this is especially true when there are shared stocks and mutual interests to protect (MFMR, 2001).

2.2.2: Standards of Hygiene, Marketing and trade related matters

Standards of Hygiene

Hygienic practices throughout the food chain (from the time that fish is harvested to the time it is consumed) must be enforced at all times for the attainment of safe and quality fish and fishery products. According to the FAO, food hygiene relates to *"all conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain"*.[256] Hygienic measures are thus aimed at preventing or reducing fish contamination and microbial growth at all levels of production. Aspects related to the hygienic design of facilities on-board, during transportation, processing and distribution, to personnel hygiene, cleaning, sanitation and pest control are synchronized in order to ensure that:[257]

- contamination is minimized;
- design and layout permit appropriate maintenance, cleaning and disinfecting and minimize air-borne contamination;

[255] New Era, Namibia and Congo discuss Aquaculture improvement, 16 June 2015. Vide http://www.diplomacynamibia.com.na/index.php?option=com_content&view=article&id=858:namibia-congo-discuss-aquaculture-improvement&catid=5:news&Itemid=17

[256] © FAO 2005-2015. Fisheries and Aquaculture topics. Hygiene and fish safety. Topics Fact Sheets. Text by Lahsen Ababouch. In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 27 May 2005. [Cited 5 November 2015]. http://www.fao.org/fishery/topic/12328/en

[257] ibid

- surfaces and materials, in particular those in contact with fish, are non-toxic in intended use and, where necessary, suitably durable and easy to maintain and clean;
- where appropriate, suitable facilities are available for temperature, humidity and other controls, as well as personnel hygiene facilities and toilets and potable water supply; and
- there is effective protection against pest access and harbourage.

Fish are perishable food commodities that require proper handling and preservation in order to increase its shelf life and retain its quality and nutritional attributes.[258] Product quality and standards in trade quality control in the fish industry is thus a critical issue. As consumers become more aware of the attributes to fish quality, it has become essential that Namibian fish products meet the highest standards, as plentiful harvests of fish are worthless if consumers are not willing to owing to quality reasons. The MFMR is currently working toward maintaining the clean waters of Namibia, and ensuring that fish processing methods match the best possible international standards. This will make sure that the demand for fisheries products from Namibian waters remains competitive even amongst the fussiest consumers in the developed world.[259]

Currently, most of the big markets are setting standards for goods imported from other parts of the world to ensure the quality of the product received by its consumers. One such market is the European Union (EU), which is widely accepted as the world's biggest importer of fish, seafood and aquaculture products.[260] Import rules for these products have been harmonised, making them identical in all EU countries.[261] For non-EU countries, however the European Commission is the negotiating partner that defines import conditions and certification requirements. In

[258] © FAO 2005-2015. Fisheries and Aquaculture topics. Hygiene and fish safety. Topics Fact Sheets. Text by Lahsen Ababouch. In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 27 May 2005. [Cited 5 November 2015]. http://www.fao.org/fishery/topic/12328/en
[259] PE Bergh, MCS in Namibia, MFMR. Vide ftp://ftp.fao.org/docrep/fao/field/006/ad495e/ad495e05.pdf
[260] The European Commission's Directorate-General for Health and Consumers (SANCO)
[261] EU Import Conditions for Seafood and Other Products. Vide: http://ec.europa.eu/food/safety/international_affairs/trade/docs/im_cond_fish_en.pdf

January 2010 the EU passed a Council Regulation (EC) No. 1005/2008, which states that, fish and fishery products shall only be imported into EU when accompanied by a catch certificate. This Regulation was promulgated in order to establish a Community system to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing).[262] The EU serves as a high market destination for Namibian fish products as will be evidenced in the proceeding chapter. it is thus of pivotal importance to the fishing sector that its products are received in good order when exported. The MFMR maintains the highest standards were accreditation, certification, testing, inspections and metrology are concerned in order to ensure that Namibian fish products meet the technical regulations of importing countries such as the EU. Maintaining sanitation systems, promoting cleaning and sanitation procedures, pest control systems, waste management and monitoring effectiveness are just some of the methods employed by the MFMR to do this.[263]

Marketing and trade related matters

Namibia's hake and monkfish industry is heavily reliant on the EU market and has resulted in a significant number of joint ventures with EU partners, involving large investment in vessels at sea and onshore processing.[264] Below is a table depicting Namibia's seafood export statistics from 2007 until 2011. According to the Namibia Statistics Agency (NSA), the country made 5,076 billion Namibian dollars from the export of seafood in 2011.

[262] Aina Afanasjeva, *General requirements for export of fish and fishery products to the EU,* presented at the TCP Workshop on Food Chain and Certification of Fisheries and Aquaculture Sector in Turkey, Turkey 2002
[263] FAO 2005-2015. Fisheries and Aquaculture topics. Hygiene and fish safety. Topics Fact Sheets. Text by Lahsen Ababouch. In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 27 May 2005.
[264] Matti Amukwa, *Market Access to the EU for the Namibian Fisheries Sector*, Confederation of Namibian Fishing Associations, Presented at the European Commission Regional Seminar on the EU SADC Economic Partnership Agreement, Botswana 2012

Year	2007	2008	2009	2010	2011
Value Namibia $ billions (equivalent to South Africa Rand)	3.140	4.228	4.581	4.804	5.076

Table 16: Namibia Seafood Export Statistics (2007-2011)

Source: National Planning Commission, Namibia Statistics Agency (NSA), 2012

The respective fish products and market destinations from where Namibia generates its export revenues are outlined in the following table, which clearly shows Spain as dominating in the European market:

Species	Main Products	Main Markets
Hake	Headed & gutted; skin on & skin off fillets; calibrated portions in retail packs; whole gutted fresh chilled.	Spain; South Africa; Germany; Italy; Holland
Horse mackerel	Whole frozen; fishmeal	Regional Africa: DR Congo; Mozambique; South Africa; Zimbabwe
Monk	Monk tails, skinless & skin on; individually wrapped portions; frozen fillets	Italy; Spain; Netherlands; Portugal; South Korea
Pilchard	Canned pilchards	South Africa
Red Crab	Cooked portions comprising claws, legs & flake products	Japan & China
Tuna	Whole round frozen; fresh chilled; loins; steaks	Spain & SE Asia

Table 17: Market destinations for Namibian Fish products

Source: MFMR, 2011

The export destinations for Hake as a single fish product are uniform in listing Spain as the dominating market with 40% of Namibia's Hake being exported to the said nation. According to 2010/2011 statistics from the MFMR, 73% of Namibia's hake products are exported to the EU effectively reinforcing the strong trade relationship that Namibia has with the Union.

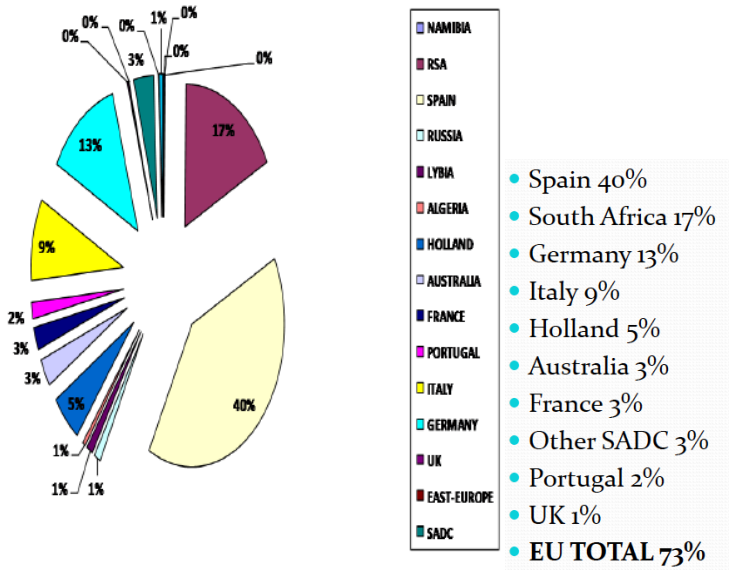

Table 18: Market destination for Namibian Hake, 2011

Source: Ministry of Fisheries and Marine Resources

In 2012 members of the European Parliament International Trade Committee voted in favor of a European Commission proposal to update the Generalised System of Preferences (GSP) Scheme, which would in turn exclude Namibia *inter alia*, from the zero or reduced tariffs provided to developing countries for their exports to EU markets.[265] According to the new classification system, Namibia was now regarded as an upper middle-income country and as of 1 January 2014, upon the signing of a new Economic Partnership Agreement (EPA), the country would no longer enjoy duty free exports to the EU.[266] The fisheries industry, which at that time paid zero tariffs to the EU, faced being forced to pay the much higher Most Favoured Nation (MFN) tariffs. The industry, together with the MFMR vehemently rejected the new proposal by the EU arguing that the countries fish prices would become less competitive than those of other countries if the agreement were signed in its current form. [267] Namibia remained reluctant to sign the interim EPA based on an

[265] Matti Amukwa, Market Access to the EU for the Namibian Fisheries Sector, Confederation of Namibian Fishing Associations, (2012). Presented at the European Commission Regional Seminar on the EU SADC Economic Partnership Agreement, Botswana

[266] The Namibian, Namibia Agrees to sign EPA Agreement, 18 July 2014. Vide http://www.namibian.com.na/index.php?id=125774&page=archive-read

[267] Annex 1 of the Market Access Regulation 1528/2007

assessment that the EU demands would amount to an unjustifiable encroachment into the country's development policy and its obligations to the World Trade Organisation (WTO), instead the country called on negotiations to continue until an agreement was reached that was both mutually beneficial and did not threaten the future economic viability of the Namibian fishing industry.[268]

During negotiations, the EU conveyed that in order to meet Namibia's request for continued duty free access for its fish products into the EU, it wanted the first right of refusal regarding EU vessels being chartered or incorporated into joint ventures. In the past, this situation resulted in Namibia ending up with old de-commissioned EU vessels, vessels that were often fuel inefficient, over 30 years old and susceptible to breaking down. Namibia was not keen to indulge the EU on this basis and wanted to break the cycle by sourcing vessels from the most competitive options internationally.[269]

After 3 years of protracted negotiations, Namibia finally agreed to sign the EPA with the EU after a deal between the Southern African Development Community (SACU) negotiating group and the European Commission was concluded.[270] The result was that there would be no levy imposed on the export of fish products to the EU. Namibia's fisheries development strategy of creating more value added products and consequent income, as well as providing more jobs for Namibia, including broadening Namibia's economic base through developing the support service sector could thus continue as planned.[271]

[268] Matti Amukwa, *Market Access to the EU for the Namibian Fisheries Sector*, Confederation of Namibian Fishing Associations, Presented at the European Commission Regional Seminar on the EU SADC Economic Partnership Agreement, Botswana 2012
[269] ibid
[270] See note 82
[271] Matti Amukwa, *Market Access to the EU for the Namibian Fisheries Sector*, Confederation of Namibian Fishing Associations, Presented at the European Commission Regional Seminar on the EU SADC Economic Partnership Agreement, Botswana 2012

Part 2:
Sustainable Fisheries: Rights and duties in the Regional Context

Chapter 2.1
Introduction to RFMOs

2.1.1: **Brief outline of the Regional Agreements and Fisheries Management Organisations that Namibia is a party to.**

Regional Fisheries Management Organisations (RFMOs) have been defined as international organisations formed by countries with fishing interests in a specific area. Notably, some RFMOs will manage all the fish stocks found in a specific area, while others will focus their resources on a particular highly-migratory species, such as tuna for example, throughout vast geographical areas.[272] Generally, RFMOs will be dedicated towards the sustainable management of fishery resources in a particular marine region of international waters and are open both to countries in the region ("coastal states") and countries with interests in the fisheries concerned.[273]

The role of RFMOs can be advisory, or can relate to the exertion of management powers to set catch and fishing effort limits, technical measures, and control obligations.

Since independence, Namibia has made consistent strides at affiliating itself to the regional and international community in relation to fisheries matters and in doing so, the country has solidified its efforts to diligently carry out its regional and international obligations of managing its marine resources in a sustainable manner. Texts of all conservation and management measures adopted under any fisheries

[272] Vide http://ec.europa.eu/fisheries/cfp/international/rfmo/index_en.htm
[273] Amador, T. (2006) International and Regional Fisheries Agreement and Organization in the SADC Region: Legal Assessment and Review; Working Paper No. 49; EU SACD MCS Programme

or international agreement to which Namibia is a party may be published in the national Gazette. In addition to those already discussed Namibia is a member State of the following regional agreements and fisheries management organisations:

a) ICCAT

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is an intergovernmental organization responsible for the management and conservation of tuna and tuna-like species in the Atlantic Ocean and adjacent seas.[274] The organization was established in 1969, at a conference in Rio de Janeiro, Brazil. The swift development of a thriving domestic tuna fishery provided the impetus for Namibia to join ICCAT in 1999, becoming the 28th member of the Commission.[275]

The ICCAT compiles fishery statistics from its members and all other entities fishing for these species in the Atlantic Ocean. It is mandated to coordinate research, conduct stock assessment, develop scientific-based management advice, as well as provide a mechanism for Contracting Parties to agree on management measures, and produces relevant publications.[276]

ICCAT is involved in management of 30 species of Tuna and tuna-like fish, including the Atlantic bluefin (Thunnus thynnus thynnus), yellowfin (T. albacares), albacore (T. alalunga) and bigeye tuna (T. obesus); from the billfishes, swordfish (Xiphias gladius), white marlin (Tetrapturus albidus), blue marlin (Makaira nigricans), sailfish (Istiophorus albicans); mackerels including the spotted Spanishmackerel (Scomberomorus maculatus) and king mackerel (S. cavalla); and, lastly small tunas like skipjack tuna (Katsuwonus pelamis).[277]

[274] Vide https://www.iccat.int/en/
[275] Namibia's National Plan of Action to Prevent, Deter and Eliminate –Illegal, Unreported and Unregulated (IUU) Fishing, MFMR, 2007
[276] See note 95
[277] Vide https://www.iccat.int/en/assess.htm

Scientific research fortifies the management decisions made by the ICCAT and its scientific reports are used by it members, in particular Namibia, for the furtherance of its comprehensive management tools for sustainable fisheries.[278] Every year the Commission will decide on conservation and management measures, which are aimed at maintaining target stocks at levels that permit the maximum sustainable, catch for food and other purposes. This is done on the basis of scientific information collected and assessed during that period.[279]

b) SEAFO

The South East Atlantic Fisheries Organisation (SEAFO) establishes a management regime for the conservation and sustainable utilisation of marine resources in the high seas portion of FAO Statistical Area 47. The management of marine resources by SEAFO excludes sedentary species that are already subject to the fishery jurisdiction of coastal States as well as tuna and tuna-like species, which fall under the jurisdiction of ICCAT.[280] SEAFO) was established in line with the provisions of Article 118 of the 1982 UNCLOS, and Article 1 (1) (d) of the 1995 UNFSA and maintains control over fishing and fishing related acts in the Southeastern Atlantic Ocean.

When fisheries in the South East Atlantic reached their maximum production levels in the 1960's and 1970's it became imperative to implement a regionally and internationally recognized institution to regulate trans-boundary monitoring, assessment and fisheries management. [281] The SEAFO Convention outlines fundamental principles that govern conservation and management of living marine resources under its jurisdiction. Its general principles promote the precautionary

[278] See note 96
[279] ibid
[280] Namibia's National Plan of Action to Prevent, Deter and Eliminate –Illegal, Unreported and Unregulated (IUU) Fishing, MFMR, 2007
[281] FAO Fisheries and Aquaculture Technical Paper 569, Review of the State of World Marine Fishery Resources. 2011. Rome .p. 108. Available at http://www.fao.org/docrep/015/i2389e/i2389e.pdf

approach whilst encompassing the ecosystem approach to fisheries management.[282]

SEAFO manages deep-sea fisheries in accordance with best scientific evidence available and as intimated before, under the guidance of both the precautionary and ecosystem approaches to fisheries management. The institution has been successful in adopting innovative conservation and management measures such as:[283]

1. the limitation of deep sea red crab and Patagonian toothfish catches in the South East Atlantic waters due to sustainability concerns and of the potential negative impacts on the vulnerable marine habitats;
2. the reduction of incidental mortality of seabirds, such as petrels and albatrosses, by fishing gear adjustments and other technical measures during fishing operations;
3. the prohibition of shark finning practices whereby vessels cut the valuable shark fins off and retain them on board while discarding the carcass of the shark;
4. the reduction of incidental mortality of sea turtles in fishing operations, through the prompt release of turtles entangled in fishing gear; and
5. the implementation of closed areas in numerous fragile marine ecosystems such as seamounts to ensure long-term conservation and protection in line with precautionary approach principles while more scientific information is becoming available.

c) Regional Convention on Fisheries Cooperation among African States bordering the Atlantic Ocean (COMHAFAT)

COMHAFAT was developed at the Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean (COMHAFAT) or "Atlantic Regional Convention for Fisheries Cooperation" and signed in Dakar on 5 July 1991

[282] ibid
[283] ibid

and entered into force on 12 July 1995 and, although certain sources indicate that Namibia has ratified the Convention, no further information in his regard is available.[284] The aims of COMHAFAT are to promote an active and organized cooperation in the area of fisheries management and development in the Region and to take up the challenge of food self-sufficiency through the rational utilisation of fishery resources. It promotes coordinated and harmonised regional efforts and capabilities for the purpose of conserving, exploiting, up grading and marketing fishery resources.[285] Article 3(1) of the Convention calls upon Contracting Parties to combine efforts to ensure the conservation and rational management of their fishery resources and take concerted action for the assessment of fish stocks occurring within the waters under their sovereignty or jurisdiction of more than one party.[286]

It further urges parties to endeavor to adopt harmonised policies concerning the conservation, management and exploitation of fishery resources, in particular with regard to the determination of catch quotas and, as appropriate, the adoption of joint regulation of fishing seasons.42

SADC Protocol on Fisheries (the Protocol)

The Protocol was adopted by the SADC Member States on 14 August 2001 and entered into force in 08 August 2003. Namibia ratified the Protocol on 21 June 2002.SADC recognises the important role of fisheries in the social and economic well being and livelihood of the people of the region, in ensuring food security and alleviating poverty. Therefore to support national initiatives taken and international conventions for the sustainable use and protection of the living aquatic resources and aquatic environment of the region, SADC Member States signed the Protocol on Fisheries in 2001.

[284] Amador, T. (2006) International and Regional Fisheries Agreement and Organization in the SADC Region: Legal Assessment and Review; Working Paper No. 49; EU SACD MCS Programme;
[285] ibid
[286] Article 3(1) of COMHAFAT.

The Protocol emphasizes the responsibilities of Member States, international relations as well as the effective management of shared resources. In signing this Protocol the Member States agree to harmonise their domestic legislation with particular reference to fisheries and the management shared resources, to take adequate measure to optimize fisheries law enforcement resources and thus protect aquaculture and the aquatic environment and safeguard the livelihood of fishing communities.

The main objectives of the Protocol is to promote responsible, sustainable use of the living aquatic resources and aquatic ecosystems of interest to State Parties in order to-[287]

(a) promote and enhance food security and human health;

(b) safeguard the livelihood of fishing communities;

(c) generate economic opportunities for nationals in the Region;

(d) ensure that future generations benefit from these renewable resources; and

(e) alleviate poverty with the ultimate objective of its eradication.

The Protocol is based on modern paradigms of precautionary principle, the ecosystem approach and the principles of the International Code of Conduct for Responsible Fisheries and those of other International Agreements.[288]

[287] Article 3 of the SADC Protocol on Fisheries

[288] Vide Article 14 (Protection of the Aquatic Environment) of the SADC Protocol on Fisheries.

Chapter 2.2-Areas for Reform and the Way Forward

Section 2.2.1-A discussion of the 2012 Urgent and Targeted Fisheries Report by the Law Reform and Development Commission

On the 11th September 2012, the MFMR contacted the Law Reform and Development Commission (LRDC) to assist the Ministry to craft targeted regulations, aimed at ensuring that the "marine resources sector is sufficiently competitive and encourages investment in labour absorptive exploitation and value addition initiatives". It was requested that the LRDC's, recommendations be made in a spirit that would promote the sustainable use of the county's marine resources.

The Ministry highlighted various issues that called for urgent attention, three (3) of which are listed below followed by their respective recommendations:

Question 1:
Can the Minister of Fisheries and Marine Resources, acting in terms of section 33(3) of the Marine Resources Act, 2000 issue conditions post the granting of rights to harvest marine resources for commercial purposes?

Answer to Question 1:
The Minister of Fisheries and Marine Resources, when acting under section 33 (granting of rights to harvest marine resources) or under section 39 (issuing quotas and conditions), and even when acting under section 61 (stipulating regulations) is subject to Article 18 of the Namibian Constitution and the MRA to bring into law targeted regulations for the Catch Limitation Measures, so as to arrive at a more equitable participation of holders of rights to commercially harvest marine resources in the fisheries and marine resources sector of the Namibian economy.

The Minister can therefore not act arbitrarily. This is trite. The Minister must be prepared to advance reasons to justify that any conduct on his part, by the issuance

of regulations, quotas, granting of rights or any other action under the Marine Resources Act, 2000 complies with the constitutional requirements of reasonableness and fairness. When inviting applications for rights to harvest marine resources, the Minister may stipulate the conditions that shall apply to the rights for which applications are invited. Similarly, when the Minister grants such rights, the Minister may also stipulate to each and every particular right, the conditions applicable thereto.

Once the Minister has exercised his office in respect of the granting of rights, the Minister is not empowered to revisit his determination and must wait until the said right's granted to a right holder lapse. He is *functus officio* as it were. However, there are exceptions. Section 41 contains instances under which the Minister may suspend, cancel or reduce the right to harvest marine resources, a quota and a license. Such instances include when a holder of a right, exploratory right, quota or licensee furnishes untrue information, fails to comply with conditions imposed under the Act, is convicted under the Act, or simply for the purposes promoting, protecting or the sustainable utilization of a particular marine resource.

Another exception exists under section 33(6) whereby the Minister may vary the period of validity of a right to harvest marine resources and in so doing vary the conditions or impose further conditions upon such right.

Question 2:

Whether the Minister of Fisheries and Marine Resources can impose regulations relating to catch limitation measures per sub-sector, per holder of a right to exploit marine resources for commercial purposes as well as per vessel.

Answer to Question 2:

Under section 61 of the MRA, regulations may prescribe conditions as well as restrictions in relation to any right, exploratory right, quota or license. For the purposes of vessels, section 61 provides ample authority for the Minister to

prescribe catch limitations. As a matter of fact, a TAC and quotas are catch management measures.

Question 3:

Once the Minister of Fisheries and Marine Resources has in terms of section 61(1) prescribed conditions and restrictions in relation to any rights, exploratory rights, quotas, licenses or authorizations issued or given under the Act, whether the Minister can revoke licenses or do so without the prosecution of such holders of rights, quotas, licenses or authorizations?

Answer to Question 3:

For the purposes of the MRA, any payment of fines or penalties occurs upon the conviction of any person for contravening the provisions of the Act. Both right holders and non-right holders can be convicted under the Act.

The Minister may however suspend the validity of a license to harvest marine resources outside Namibian waters for a finite period. This license is not to be confused with a right. In the interest of the promotion, protection or utilization on a sustainable basis of a particular marine resource, the Minister may suspend, cancel or reduce the duration or the amount of, or amend the conditions of a right, exploratory right, quota or license. This is in terms of section 41(4) of the Act.

Further, the Minister may vary the period of a right, at any time before the expiry of such right, if the holder of that right no longer fulfills the prescribed criteria for the term of the right when it was granted. The extent to which the Minister may vary is not statutorily prescribed, and one may contend that the Minister has full discretion so long as he acts reasonably and fairly. What is reasonable and fair is dictated by the peculiar facts of every situation.

Part 3
Conclusion

History has shown that the absence of effective, or effectively implemented, property rights is the root cause of the plethora of problems in captures fishery's management (Gordon, 1954). In recognizance of this undisputed fact, many nations have thus sought to implement some form of management approaches to their fisheries. Fisheries management is an expensive activity but one that is essential for the sustainability of fisheries. If carried out correctly, the outputs have the potential to far outweigh any initial investments.

The introduction of a new management regime will generally take some time before its bearing fruition, however in Namibia, after the establishment of clearly defined strategies and objectives as well as the backing of political will, the country was able to produce positive attributes to its industry within the space of 3 years. These positive attributes include the inclusion of more previously disadvantaged Namibians in commercial fisheries, rehabilitating and stabilized fish stocks, increased jobs in the fishing sector as well as an increase in the tax revenues from fisheries.

No two country's are identical so it is therefore imperative that each coastal state take into consideration its own set of unique circumstances, in terms of its fish stock profile, its socio-economic priorities and the importance it would attach to each of the parameters that feed into the equation on how, and at what level, its resources should be harvested before it decides on which fisheries management approach best suits its needs.

Notwithstanding the above, countries can also benefit from the insights achieved by their neighboring coastal states on how to deal with common issues, this position is generally encouraged as opposed to reinventing the wheel where. One such

example is with MCS collaboration, an initiative that has shown practical advantages in terms of efficiency, effectiveness and fisheries development.

Namibia continues to affiliate itself with progressive regional and international organisations aimed at promoting sustainable fisheries practices, in doing so, the country is forced to diligently ensure that its domestic laws adequately articulate international ethos on the subject matter. Through the publication of reports, the MFMR is compelled into consistent introspection of whether it is adequately implementing its international obligations.

The elements of success in Namibia's rights based management approach to fisheries management are well articulated in the celebrated Marine Resources Act, 2000. Starting from the declaration of a property rights based regime to the issuance of fishing quotas, to the implementation of the Namibianisation policy, these elements are all envisaged to inspire other fishing nations particularly those developing countries whose marine resources are still largely benefitting foreigners as opposed to the locals, to bring about a positive change that will serve the masses.

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