OCCASIONAL PAPER 207

Governance of Africa's Resources Programme

December 2014

Rents, Rights and Restructuring: Namibia's Lessons for the Governance of Africa's Fisheries

Alex Benkenstein

South African Institute of International Affairs

African Perspectives. Global Insights.

ABOUT SAIIA

The South African Institute of International Affairs (SAIIA) has a long and proud record as South Africa's premier research institute on international issues. It is an independent, non-government think tank whose key strategic objectives are to make effective input into public policy, and to encourage wider and more informed debate on international affairs, with particular emphasis on African issues and concerns. It is both a centre for research excellence and a home for stimulating public engagement. SAIIA's occasional papers present topical, incisive analyses, offering a variety of perspectives on key policy issues in Africa and beyond. Core public policy research themes covered by SAIIA include good governance and democracy; economic policymaking; international security and peace; and new global challenges such as food security, global governance reform and the environment. Please consult our website www.saiia.org.za for further information about SAIIA's work.

ABOUT THE GOVERNANCE OF AFRICA'S RESOURCES PROGRAMME

The Governance of Africa's Resources Programme (GARP) of the South African Institute of International Affairs (SAIIA) is funded by the Norwegian Ministry of Foreign Affairs. The programme contributes to policy governing the exploitation and extraction of Africa's natural resources by assessing existing governance regimes and suggesting alternatives to targeted stakeholders. GARP examines the governance of a number of resource-rich African countries within the context of cross-cutting themes such as environmental change and sustainability. Addressing these elements is critical for Africa to avoid deepening the challenges of governance and reducing its vulnerability to related crises, including climate change, energy security and environmental degradation. The programme focuses on the mining, forestry, fisheries and petroleum sectors in select African countries.

Programme head: Oladiran Bello, ola.bello@saiia.org.za

Please note that all currencies are in US$ unless otherwise indicated.

ABSTRACT

Namibia is often cited as an example of an African country that has achieved relative success in managing its marine resources and promoting local ownership in the fisheries sector. This paper draws out key lessons from Namibia's fisheries governance experience, highlighting not only successes but also a range of challenges facing the country. Namibia has forfeited a portion of the rents produced in the fisheries sector in order to incentivise local ownership and job creation through its Namibianisation policies. However, the depth of reform in ownership patterns has been questioned. The country's fish stocks were heavily overfished in the pre-independence period and this may have contributed to key and lasting shifts in the marine ecosystem. The fisheries sector remains a key component of the Namibian economy but, just like many other African states, the country faces difficult choices in balancing demands for growth, sustainability and equity. While recognising that Namibia's fisheries system differs in important ways from those of many other African coastal states, this paper argues that the key lessons emerging from Namibia's experience are directly relevant to these countries. These lessons include the need for strong political leadership to address illegal fishing activities, the importance of developing an effective system to capture rents generated by fisheries, and the need to ensure that the exploitation of fisheries resources has a direct developmental impact on the national economy.

ABOUT THE AUTHOR

Alex Benkenstein is Programme Manager for the Governance of Africa's Resources Programme at the South African Institute of International Affairs. His research interests include natural resource governance broadly, with a particular focus on fisheries, mining and climate change.

ABBREVIATIONS AND ACRONYMS

BCC	Benguela Current Commission
BCLME	Benguela Current large marine ecosystem
EEZ	exclusive economic zone
FAO	Food and Agricultural Organization [of the United Nations]
ICSEAF	International Commission for Southeast Atlantic Fisheries
MCS	monitoring, control and surveillance
MFMR	Ministry of Fisheries and Marine Resources [Namibia]
NatMIRC	National Marine Information and Research Centre [Namibia]
NB	Northern Benguela
SB	Southern Benguela

INTRODUCTION

Each year the World Future Council recognises leading policies that create better living conditions for current and future generations. In 2012 Namibia was one of three countries recognised for developing particularly effective policies to protect oceans and coasts. Receiving the award, Namibia's Deputy Minister of Fisheries and Marine Resources, Kilus Nguvauva, noted that the award was 'a testimony to over twenty years of Namibia's efforts to rebuild the stocks of its marine resources and manage the fisheries on a sustainable basis'.[1]

Since gaining independence in 1990, Namibia has sought to halt illegal fishing, promote greater national participation in the industry, increase local processing of fish products, rebuild fish stocks and ensure that a share of rents generated by the country's fisheries are captured by the state to fund the management of the sector. The Namibian Ministry of Fisheries and Marine Resources (MFMR) has achieved notable success. Illegal fishing activities, which continue to decimate the fish stocks of many African states, have decreased dramatically in Namibian waters, while participation by Namibian nationals in the industry has grown considerably. Despite careful management of the country's once lucrative sardine fishery, however, stocks have not recovered. High-value hake stocks are in a better position, but have only recovered very slowly and remain at roughly 20% of pre-exploitation levels. This paper explores several themes relating to the governance of Namibia's fisheries, focusing in particular on the role of the Namibian government in capturing rents generated by the country's fisheries and promoting local ownership and processing of fish products. The paper seeks to draw lessons from Namibia's experience to inform the governance of fisheries in other African countries. While recognising that Namibia's fisheries system differs in important ways from the unique contexts of many other African countries, the paper argues that the lessons emerging from Namibia's experience are highly relevant to the governance challenges faced in sustainably managing the continent's fisheries.

The first two sections of the paper provide an overview of the bio-physical aspects and historical development of Namibia's fisheries, and of the current state of the country's key fisheries. The third and fourth sections describe Namibia's efforts to gain greater benefit from its fisheries resources through a variety of mechanisms to capture rents generated by the sector, and promote increased local ownership and processing through the country's Namibianisation policies. The fifth section addresses the challenges posed by shifts in the Benguela ecosystem and the risks inherent in the exploration of new fisheries resources, while also discussing the role of the Benguela Current Commission (BCC) in developing a regional response to these challenges. The concluding section outlines the key lessons that have emerged from Namibia's experience in governing its fisheries.

THE BENGUELA CURRENT AND THE EMERGENCE OF NAMIBIA'S FISHERIES SYSTEM

On the south-western coast of Africa, along the coasts of Namibia, South Africa and Angola, strong prevailing winds drive the ocean's surface water northwards and offshore which, in turn, draws cooler, deeper water upwards to take its place. This is the Benguela

upwelling system and, like other eastern boundary upwelling systems off the coasts of California, Chile and Senegal, the constant cycling of water generates a nutrient rich environment that supports some of the highest concentrations of marine life in the world.[2] Abundant phytoplankton and zooplankton provide food to small pelagic fish species such as sardines, horse mackerel and anchovies which, in turn, serve as a food source to larger fish species such as hake and monkfish.

Fishing technology advanced rapidly in the decades following the Second World War, including the emergence of freezer vessels and advanced navigation equipment. These developments, combined with increasing pressure on fish stocks in the waters off Europe, Asia and North America, led to the establishment of distant water fleets that sought out productive fishing grounds around the world, including those of the Benguela system.[3]

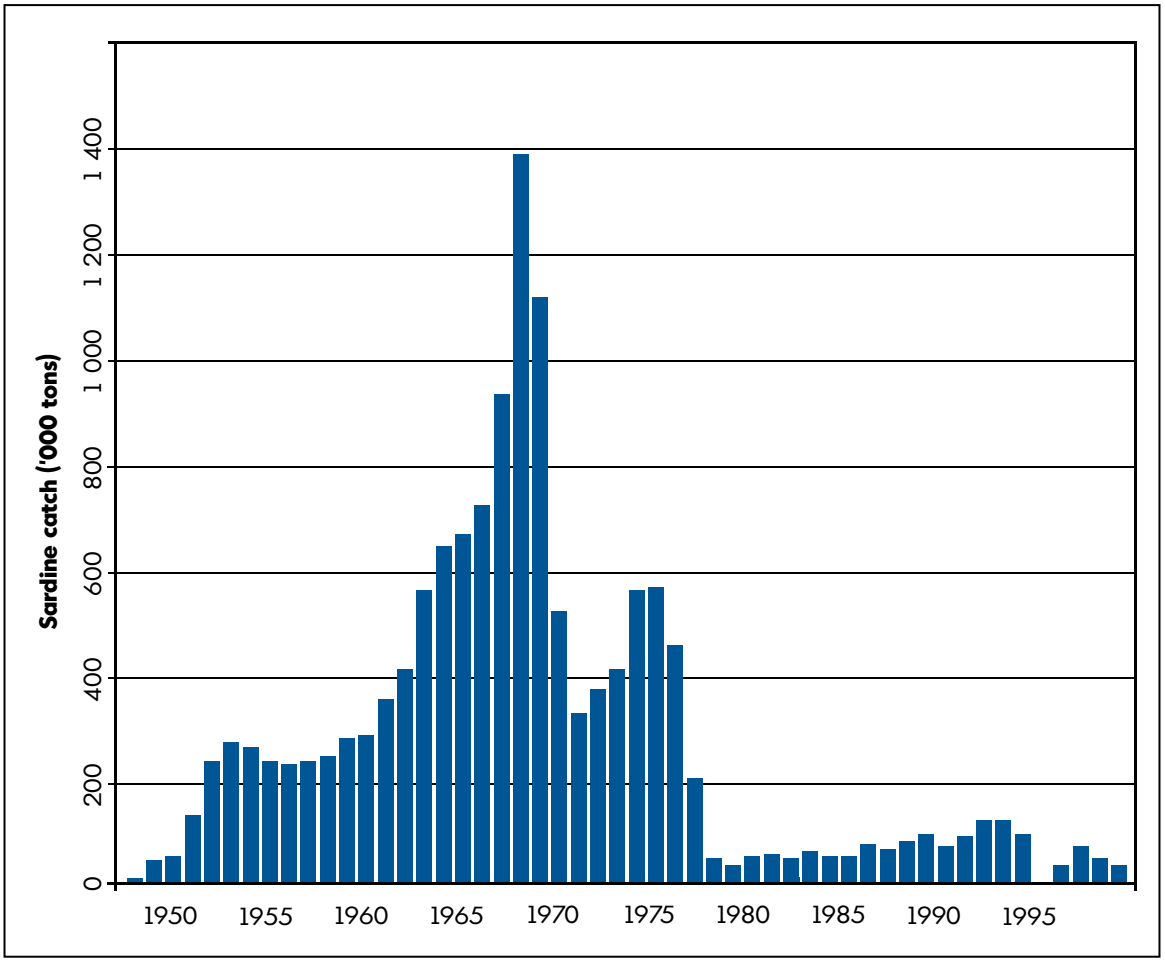
During the 1950s and 1960s, Namibia's waters were increasingly targeted by vessels from Spain, Russia, Portugal and other countries.[4] At about the same time, Namibia's own pelagic fishery emerged, with the establishment of fish processing factories in Walvis Bay, the country's main fishing port. During the first years of the local pelagic fishery, quotas were set conservatively, but a recent historical review marked 1959 as the point when 'rational control of the fishing industry began to crumble in the face of company pressure'.[5] Fishing quotas rose dramatically, while in the mid-1960s two large South African pelagic factory ships began operating just beyond Namibia's territorial waters, at that time a zone extending 12 nautical miles from the shoreline.[6]

By the late 1980s over 300 trawlers were operating in Namibian waters. Catch levels, particularly of valuable sardine and hake, first rose rapidly as fishing pressure increased, and then plummeted as overfishing, and to an extent environmental change, depleted fish stocks. Sardine catches rose from about 200 000 tonnes annually in the 1950s to a peak of 1.4 million tonnes in 1968. Hake catches increased almost twenty-fold from 1964 to 1972.[7] Within 20 years hake biomass was reduced by 80%.[8] Sardine catches in 1971 were less than a quarter of those in 1968. A slight recovery during the 1970s was soon erased, after which annual catches rarely rose above 50 000 tonnes.[9]

The exceedingly high catch rates in Namibia's waters were possible in part due to the lack of an effective governance regime to control fishing pressure. Following the expulsion of German colonial authorities after the First World War, Namibia came under the administration of South Africa, which itself benefited from the lack of fisheries regulation in Namibian waters. Moreover, when the UN revoked South Africa's mandate to rule Namibia in 1966, South Africa's jurisdiction over Namibia's waters was regarded as illegal by foreign fishing fleets.[10]

The International Commission for Southeast Atlantic Fisheries (ICSEAF) was established in 1969 with the purpose of managing fisheries in the region. ICSEAF established certain management measures, such as a minimum mesh size and a closed 12 nautical mile zone extending from the shoreline to protect stocks. However, a lack of political will and enforcement capacity among the member states meant that little was done to curb the rampant overfishing occurring in Namibian waters.[11] An indication of the inefficacy of ICSEAF was the fact that, upon gaining independence in 1990, Namibia declined to become a member of the organisation, after which it fell into disuse.

Figure 1: Sardine catches from the Namibian part of the Northern Benguela since 1947



Source: David J, *Appendix 3: A Brief History of the Namibian Fishery; Project: The Dredging of Marine Phosphate Enriched Sediments from Mining Licence Area No. 170, March 2012, Environmental Impact Assessment Report Dredging of Marine Phosphate Enriched Sediments from MLA 170*. Namibian Marine Phosphate (Pty) Ltd, http://www.envirod.com/pdf/draftsapril2012/NMP_FEIAR_App_3_Namibian_Fishery_30March2012.pdf, accessed 12 June 2014

Following Namibia's independence, the conservation and sustainable use of the country's natural resources were prioritised in the development of policies and legislation. Article 95(I) of Namibia's constitution stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at, among other goals, the 'maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians'.[12] The central elements of Namibia's fisheries governance strategy were initially set out in the white paper *Towards Responsible Development of the Fisheries Sector*, published in 1991. The white paper emphasised that the goal of fisheries management efforts was to 'utilize the country's fisheries resources on a sustainable basis and to develop industries based on them in a way that ensures their lasting contribution to the country's economy and overall development objectives'.[13]

Addressing the overfishing of Namibia's waters by foreign trawlers was one of the most pressing priorities in the immediate post-independence period. In June 1990, just three months after declaring independence from South Africa, the Namibian government passed the Territorial Sea and Exclusive Economic Zone of Namibia Act 3 of 1990, which established the country's 200 nautical mile exclusive economic zone (EEZ) and provided the legal basis for the government to take action against foreign trawlers operating in Namibian waters. Believing that the Namibian government did not have the capacity to enforce its newly proclaimed EEZ, a number of foreign trawler vessels continued to fish illegally. The government acted decisively; a private helicopter was hired and staffed with a contingent from the Namibian Defence Force, which detained five Spanish freezer vessels. Three more vessels were detained in March 1991, after which illegal encroachment by unauthorised foreign fishing vessels decreased significantly.[14]

The MFMR was established in 1991 and was responsible for the management of all marine living resources within the EEZ. Foreign aid, as well as the support of international institutions such as the UN Food and Agricultural Organization (FAO), played an important role in supporting the establishment of fisheries research capacity, management structures, and monitoring, control and surveillance (MCS) activities. Fisheries research and stock surveys were initially carried out with the assistance of the research vessel *Dr Fridtjof Nansen* in collaboration with the Norwegian Institute of Marine Research. Namibians involved in these research programmes later brought important expertise to Namibia's National Marine Information and Research Centre (NatMIRC), which was established in 1993.[15] Donor-funded research programmes have continued to play an important role in supporting fisheries science and governance in Namibia (eg, the EAF–Nansen, ECOFISH, Nansclim and BENEFIT projects). The Sea Fisheries Act 29 of 1992 became the core legislation framing fisheries policy and implementation. By 1995, the Minister of Agriculture, Water and Rural Development, Nangolo Mbumba, could proclaim that[16]

> for the past two years, no one has tried to fish illegally in our waters and we have had no trouble with anyone. We have been lucky enough to get powerful patrol boats from Norway and a helicopter from Japan. And now that we have friendly neighbours to the South and to the North, we are coordinating surveillance and will catch anyone who tries any tricks.

In 2000 the Sea Fisheries Act was superseded by the Marine Resources Act 27 of 2000, but the core policy goals of Namibian fisheries governance remained in place, namely rebuilding stocks; building a national industry; Namibianisation, to ensure that the benefits of rebuilding stocks and building a fishing industry in Namibia accrue substantially to Namibians; and empowerment, to ensure an equitable balance of participation among Namibians, particularly by those previously excluded.[17] Namibia's fishing industry is dominated by three core fisheries, namely (i) demersal trawl (primarily targeting hake, but also kingklip and monkfish), (ii) mid-water trawl (targeting horse mackerel) and (iii) pelagic (targeting sardine, anchovy and juvenile horse mackerel). The following section provides a more detailed overview of these fisheries.

NAMIBIA'S KEY FISHERIES

Namibia has only two fishing ports. Walvis Bay, at the centre of the country's coastline, is the largest port by a significant margin. The smaller Luderitz port is in the south. In addition to the demersal, mid-water and pelagic fisheries, smaller fisheries also exist for red crab, rock lobster and deepwater pelagics (primarily tuna).

The demersal fishery's primary target species is shallow-water and deep-water hake.[18] Most of Namibia's hake catch is accounted for by trawler vessels, which include wet fish and freezer vessels. In 1992 about 5% of Namibia's hake catch was landed by wet fish trawlers. However, the Namibian government, recognising that wet fish vessels provide greater economic benefits through the need for onshore processing, have progressively shifted rights allocations towards wet fish vessels. In 2013 there were 13 licensed freezer trawlers and 59 wet fish trawlers. Demersal trawling occurs along the entire coastline between depths of 200 m and 850 m. As a conservation measure, no trawling is permitted in waters shallower than 200 m along the central and northern coastline, and no shallower than 300 m along the southern coastline.[19] There are also about 13 long line vessels that catch a small share of the total hake quota (generally less than 10%) and export high-quality, unfrozen hake to foreign markets.[20]

Although hake accounts for only about a quarter of the total catch of Namibian fisheries by volume, this high-value species was, until recently, the most commercially important fishery in post-independence Namibia, contributing more than half of the final value of all fish products. In recent years, however, the mid-water trawl fishery targeting horse mackerel has grown significantly, with Namibia's Minister of Fisheries and Marine Resources, Bernard Esau, declaring in 2013 that the value of the horse mackerel fishery had surpassed that of hake.[21]

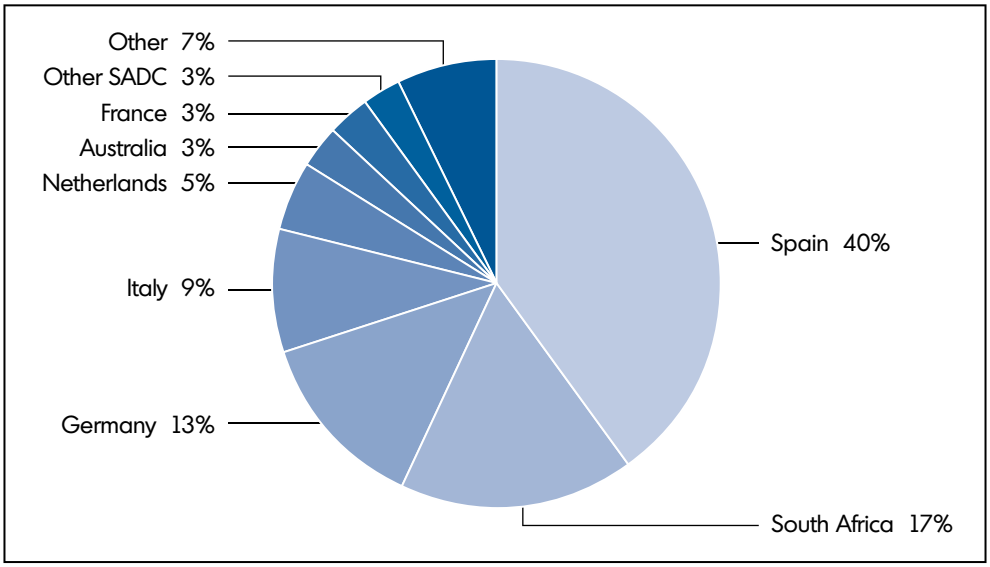
Following the collapse of Namibia's sardine fishery, the mid-water trawl fishery has accounted for the largest share of the country's fish catch by volume. During the 1980s annual catch rates for horse mackerel rose as high as 660 000 tonnes, but in recent years the maximum sustainable yield has been estimated at 250 000–300 000 tonnes. Adult horse mackerel occur along the entire coast, but concentrations are denser towards the north, where fishing effort is concentrated.

The current pelagic, purse-seine fleet has declined significantly following the collapse of sardine stocks in the 1970s. There are currently only about 10 purse-seiners in operation. In 2013 the purse-seine fleet had a quota of just 15 000 tonnes, of which only 800 tonnes was caught.[22] Sardines are targeted for canning, but these vessels also target anchovy and juvenile horse mackerel for the production of fish meal. In 2014 Efuta Maasbanker, a joint venture between Etosha Fishing and Erongo Marine Enterprises, launched a canned horse mackerel product, which has been well received by the market and represents the first industry efforts at additional value addition in the horse mackerel fishery.

Namibia has a small population of about 2.7 million people, with limited local consumption of fish products. Namibia's fisheries have historically been export-oriented and, despite government efforts to promote local consumption of fish, the focus on exports will persist, given the above-mentioned constraints of the local market.[23] Over 95% of Namibia's hake catch is exported, primarily to South Africa and Europe. The largest market is Spain, which accounts for 40% of Namibia's hake exports, although a

considerable portion of this is re-exported to other European markets. Horse mackerel is a low-value species – the MFMR reported that in 2013 the average export price for hake per tonne was NAD[24] 28,000 ($2,392), while the price of horse mackerel per tonne was NAD 8,900 ($760).[25] Almost all of Namibia's horse mackerel catch is exported to African markets as whole, unprocessed fish, except the purse-seine catch of juvenile horse mackerel, which is converted to fish meal and the recent development of the canned horse mackerel product described above. The primary markets for whole, unprocessed horse mackerel exports are the Democratic Republic of the Congo, Mozambique, South Africa and Zimbabwe.

Figure 2: Namibia hake exports (2011)



Note: SADC = Southern African Development Community

Source: Amukwa M, 'Market Access to the EU for the Namibian Fisheries Sector', presentation to the European Commission Regional Seminar on the European Union–SADC Economic Partnership Agreement in Botswana, 14–15 November 2012, http://trade.ec.europa.eu/doclib/docs/2013/january/tradoc_150223.pdf, accessed 5 June 2014

RENT CAPTURE

The World Bank's *Sunken Billions* report argues that about $50 billion of potential revenue is being lost annually to the global economy due to the poor state of the world's fisheries.[26] If fish stocks could be managed effectively and allowed to recover, economic rents could be increased dramatically, thereby providing a more ecologically sustainable, but also a more economically beneficial fisheries system.[27] While the policy prescriptions of the report have been criticised for underplaying questions of distributional justice, it has served to highlight the question of how economic rents from fisheries activities may be increased, captured and distributed.

The UN Convention on the Law of the Sea of 10 December 1982 grants states sovereign rights to exploit and manage living and non-living natural resources within their EEZs.[28] In rights-based systems such as that of Namibia, the government licenses private sector operators to exploit the resource. However, as Ithindi has emphasised, 'of particular interest is how the surplus generated spills back to the owner of the resource and thus makes private property rights compatible with public ownership of the resource'.[29]

Fish stocks within the EEZs of African states, as in many other regions of the world, are severely overexploited. African states, therefore, also forfeit significant potential rents as a result of the poor state of their fisheries, as emphasised by the *Sunken Billions* report. Illegal and unreported fishing, of course, provides no rent to the state. From 1970 to 1990 over 8.5 million tonnes of hake were fished from Namibia's waters, representing NAD 14 billion ($1.19 billion) in value. The only contribution to the Namibian state from these fisheries was a $180,000 payment made by South Africa into a trust fund created by ICSEAF. Namibia therefore received less than 0.01% of the value of the fish taken from its waters during this period.[30] Addressing illegal fishing and overfishing to allow stocks to recover thus remains a critical imperative for African governments. However, there is also the question of how rents generated by current fishing levels are captured and distributed. In many cases the bulk of rents generated by fisheries in developing country contexts accrue to private, often foreign-based, fishing companies, while rents that are collected by government through licence fees or catch levies are rarely effectively reinvested in the fisheries governance system.

The development of a comprehensive MCS system, including the installation of on-board catch monitors on all vessels, has led to a drastic reduction in illegal and unreported fish catches in Namibia. Namibia has also sought to establish an effective system of charges and levies in order to capture rent from fisheries activities conducted in its waters. There are five primary categories of fees levied in Namibia, and each fee category is designed for a specific objective, as shown below. A fee is paid into the Marine Research Fund for every tonne of fish landed in order to support stock assessments and other elements of fisheries research. During 1994–1999 the fund collected an annual average of NAD 37 million ($3.16 million) for research and training.[31] The most significant fee in terms of value is the quota fee, also charged per tonne of fish landed. The advantage of the quota fee is that it is relatively simple to administer compared to profit-based levies.

The high level of political commitment shown by Namibia in the early post-independence period to stamp out illegal fishing illustrates the gains that can be achieved in addressing these same challenges in other African states. In recent years international institutions and non-governmental organisations, and local actors have made increasing efforts to address illegal fishing in areas such as West Africa, the region with the highest level of illegal fishing in the world. These efforts, however, must be led by national fisheries governance authorities with the necessary political support if they are to achieve sustainable results. Moreover, effective rent capture mechanisms are required to support fisheries governance activities, encompassing not only measures to address illegal fishing but also the development of the sector more broadly.

Table 1: Fee structure for Namibian fisheries

Category	Payee	Purpose
Licence fee	All active fishing vessel operators	Accrues to government as cost-recovery
Observer fee	All active fishing vessel operators	Accrues to Fisheries Observer Agency for funding MCS
By-catch fee	Quota/Licence holders	Accrues to government and serves as a deterrent against deliberate targeting of none-target species
Marine Research Fund levy	Quota holders	Accrues to MFMR for funding research and human resource development
Quota fee	Quota holders	Accrues to government for fiscal allocation to other economy-wide uses such as employment and Namibianisation

Source: Ithindi AP, *Rent Capture in the Namibian Fisheries: The Case of Hake*, final project report for the UN University Fisheries Training Programme, 2003, http://www.unuftp.is/static/fellows/document/pendaprf.pdf, accessed 27 May 2014

Namibia has established a fairly comprehensive rent capture system, but rent maximisation is not the only goal the Namibian government pursues in relation to the fisheries sector. In fact, significant resource rents have been forfeited in order to promote local ownership and job creation through a system of rebates on existing fees, as outlined in the following section.

NAMIBIANISATION: TRUE EMPOWERMENT OR CASH FOR QUOTA?

Hersoug and Holm have outlined three broad categories of fisheries resource management, namely (i) the state model, (ii) the market model and (iii) the community model.[32] The state model refers to a centralised and bureaucratic form of fisheries resource management, which is considered especially appropriate when resources are overexploited and where control of fishing effort requires prioritisation. The market model lays greater emphasis on efficiency, relying on market forces to determine quota allocations through a system of individual transferable quotas. While increasingly popular in many fisheries governance regimes, individual transferable quotas have been criticised in a developing country context as well-resourced, often foreign-based, companies tend to buy up rights at the expense of domestic operators, often leading to oligopolistic behaviour. The community model emphasises local governance structures and co-management processes, stressing equitable access to resources, and thereby enhancing the legitimacy of resource regulations.[33]

While elements from each of these models can be identified in most fisheries management regimes, there is a tendency for one to dominate. Namibia has opted for a state model. Fishing rights are not sold to the highest bidder, rather, the Namibian government has established a range of incentives in the allocation of fishing rights and the structuring of quota fees to encourage local ownership, job creation and fish processing. The main policy instrument used to promote Namibianisation was the introduction of rebates on quota fees, which are determined by the degree of Namibian ownership, employment of Namibian crew, and whether the fish was landed and processed in Namibia, among other conditions. Quota fees are lowest for Namibian vessels, that is, registered in Namibia with at least 51% beneficial ownership and at least 90% Namibian crew. The fees are higher for Namibian-based vessels,[34] and highest for foreign-based vessels; for example, on 'wet hake fish', the quota fees for foreign vessels are triple those for Namibian vessels and double the level for Namibian-based vessels.[35]

The Namibian government has also sought to encourage local ownership and local processing through establishing criteria for fishing rights allocations. Fishing rights are allocated for a period of 7, 10, 15 or 20 years, depending on the level of Namibian ownership, employment and investment in local processing, as shown below.

Table 2: Rights allocation criteria for Namibian fisheries

Period	Criteria	
Seven-year rights	Applicants with less than 50% Namibian ownership of vessels or onshore processing plants in the fishery where rights are granted	Applicants with less than 51% Namibian ownership in ventures without significant onshore investments in the fishery where rights are granted
Ten-year rights	Applicants with at least 50% Namibian ownership of vessels or onshore processing plants in the fishery where rights are granted	Applicants with less than 51% Namibian ownership in onshore investments in the fishery where rights are granted

continued on page 14

Period	Criteria			
Fifteen-year rights	Ventures that are at least 90% beneficially Namibian owned with significant investments in vessels or onshore processing plants (eg, 50% ownership in facilities in the fishery where rights are granted is seen to be significant)	Namibian rights holders with smaller shares in larger ventures	Majority foreign-owned ventures with the capacity to make a major contribution to economic and overall development in Namibia (eg, onshore employment of 500 Namibians is seen as a major contribution)	Small joint or wholly foreign-owned ventures, which can make innovative contributions to the development of the fishing industry in Namibia, such as developing new products or export markets, and where a long-term right is necessary to secure the investment involved
Twenty-year rights	Ventures that fulfil the requirements for fifteen-year rights and employ at least 5 000 permanent employees in onshore processing facilities			

Source: Republic of Namibia MFMR (Ministry of Fisheries and Marine Resources). 'Policy Statement (Guidelines) for the Granting of Rights to Harvest Marine Resources and the Allocation of Fishing Quotas', July 2009, http://www.mfmr.gov.na/documents/53305/832050/Policy_draft_July09/9df9b7ef-e89a-4bcd-aa2f-c7dfabe2f1b4, accessed 2 June 2014

Under the Namibianisation policy, a significant transfer of ownership has occurred, as well as an increase in the number of Namibian-based vessels and ongoing investments in local processing. The targeted shift in rights allocations from freezer vessels to wet fish trawlers, leading to greater shore-based value addition and employment, has already been noted. Even in the first years during which these policies were implemented, however, it was recognised that established interests were able to adjust their practices to ensure that their position in the industry was retained. A 1995 review of transformation in the Namibian fishing industry noted that,[36]

> In particular, the larger established companies have exploited the lack of finance, vessels, processing facilities and marketing outlets to their advantage and to the detriment of the newcomers to the industry ... The new companies have subsequently landed in the hands of the larger established companies. In some instances there have been buy-outs of a majority of shares of new companies by the established companies. In others, smaller companies have been forced to sell their year's quotas to the larger operators as the only means of having their quota caught. Others have found themselves locked into five year contracts with the big companies to deliver fish exclusively to them for processing and marketing.

Although the government has attempted to address loopholes in the Namibianisation policy, allegations of fronting[37] and foreign (particularly Spanish) 'ownership creep' in

Namibia's fisheries continue to surface. Studies have claimed that Namibianisation is, in fact, illusory, with foreign control maintained through a complicated network of preferential shares, proxy ownership and cross-ownership.[38] Two recent exposés have highlighted the extent of current Spanish ownership in the Namibian hake industry.[39] Investigative journalists recently claimed that one of the major fishing companies in Namibia's hake industry has defrauded the government of NAD 1.2 billion ($102.5 million) over a 40-year period by allocating a significant portion of ownership to a Namibian company that did not receive any dividend payments. Esau has conceded that 'fronting is a problem in our economy'.[40]

The central problem, outlined in 2014 by Kirchner and Leiman,[41] is that, although fishing rights are non-tradeable in Namibia, rights holders are permitted to 'lease' their quota to established firms. Namibians who have been awarded fishing rights and allocated quotas as part of the government's empowerment drive are faced with the choice of making costly investments in vessels, processing infrastructure and marketing activities or directly leasing their quota to established companies – essentially a risk-free cash-for-quota exchange. Given these incentives, it is to be expected that many beneficiaries of the Namibianisation policy will opt to lease their quotas or become passive partners in joint ventures with larger, established firms. The MFMR's 2009 guidelines for the granting of rights and the allocation of quotas states that applicants for fishing rights are expected to provide[42]

> a detailed feasibility study, including market analysis indicating processing and marketing of fish and fishery products; financial analysis is stating [sic] the projected profitability of the venture; management analysis, describing the ownership, control and the management of the operations; and technical analysis giving details of vessel(s) and processing factory to be used.

It is on the basis of this feasibility study that the rights are allocated, and it is essential that the MFMR holds rights holders accountable against the plans and targets outlined in their rights applications. It has been argued that rights holders may need to sell their quota during the first years of their rights allocation period in order to build up the funds required to invest in vessels and other capital expenses, yet these quota sales require careful monitoring to ensure that they are indeed used for their intended purpose.

Esau has criticised the sale of quotas, particularly to foreign fishing companies. He admitted in response to parliamentary questions that resource constraints limited the department's ability to monitor quotas and the implementation of employment and social investment targets against which rights are allocated.[43] It should be emphasised that there are cases of successful Namibian-owned new ventures in the fishing industry. States also have the right, indeed the political imperative, to seek to address questions of equity and social justice through the fisheries governance system, particularly in a developing country context. Namibia's fisheries management authorities face difficult choices in attempting to avoid oligopolistic market concentration and the abuses that may result from this, against pursuing a Namibianisation policy that may compromise the jobs provided by established companies while delivering little in terms of broad-based empowerment. Perhaps more fundamentally, Namibia is seeking to navigate the challenges of empowerment, job creation and rent capture in its fisheries sector within the context

of an ecosystem that has been fundamentally altered by the intensive overfishing of the pre-independence period and adverse environmental impacts.

SHIFTING ECOSYSTEMS, NEW FISHERIES AND NEW GOVERNANCE APPROACHES

Studies of the larger marine Benguela marine ecosystem distinguish between the Northern Benguela (NB) and the Southern Benguela (SB) systems, with a strong upwelling cell near Luderitz dividing the two regions. The NB stretches from the Angolan front to Luderitz, and accounts for most of Namibia's fishing waters. The SB reaches from Luderitz to Cape Agulhus on South Africa's south coast. Typical of southern upwelling systems around the world, both the SB and NB were initially dominated by small pelagic fish species, which formed the crucial link between lower and upper trophic levels by converting phytoplankton and zooplankton into a form accessible to a range of seabirds (eg, gannets and penguins), marine mammals (eg, cape fur seals) and predatory fish. A recent study notes, however, that following the collapse of Namibia's sardine fishery in the 1970s, 'small pelagic fishes have almost completely disappeared from the NB, and their removal has had substantial, and possibly irreversible, impacts on the structure and functioning of the ecosystem'.[44] Essentially, it appears that the ecological niche left vacant by the collapse of the small pelagic fishery in the NB has been filled by three species, namely (i) the bearded goby, (ii) horse mackerel and (iii) jellyfish.

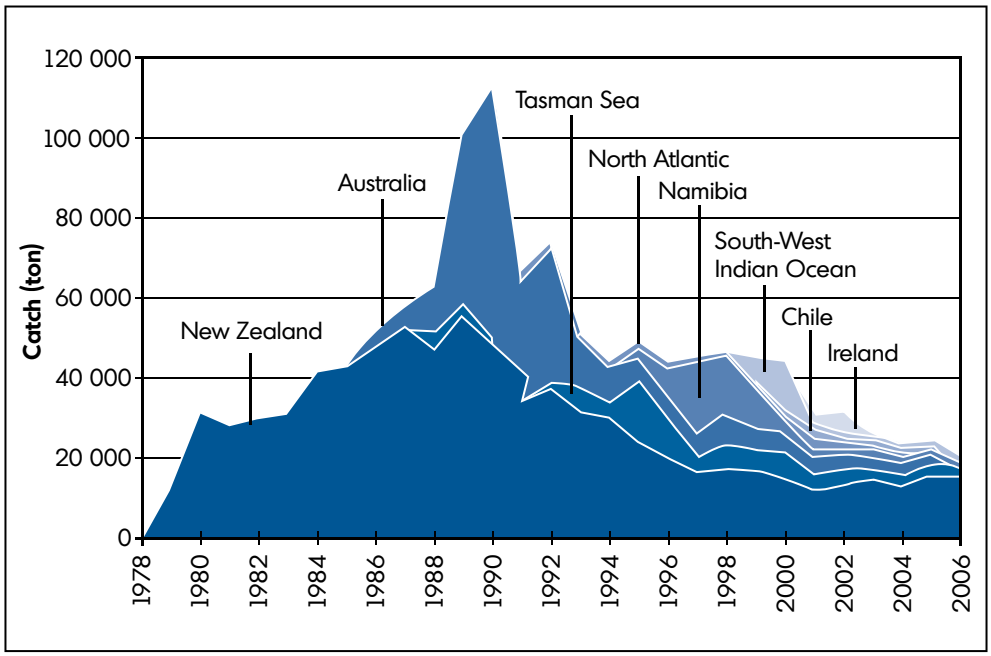
The bearded goby is now the key prey species for a variety of marine life. However, this species is less energy-dense than sardine or anchovy, which has had significant impacts on the entire food web. Since the mid-1950s, for example, Namibia's African penguin population has declined by 77% and the Cape gannet by 94%. The shift in the ecosystem has also likely contributed to the lack of recovery in Namibia's hake stocks, which have not increased significantly since Namibia gained independence in 1990. A review undertaken in 2012 noted that hake biomass remains at roughly 20% of pre-exploitation levels, with signs of slow recovery since an all-time low in the 2002–2004 period.[45] Jellyfish compete with small pelagic species such as sardine for zooplankton as a food source and also feed on fish eggs and larvae. The dramatic increase in the number of jellyfish in the NB system therefore is likely playing an important role in the lack of recovery of the region's once lucrative sardine stocks. The ecosystem regime shift that has occurred in the NB offers a stark warning to other fisheries-dependent African states. Overfishing, habitat destruction and pollution, coupled with environmental changes, can alter natural systems to such an extent that, even if these harmful impacts were to be curbed, the ecosystem may not return to its former condition. The lack of recovery in Namibia's sardine and hake stocks have contributed to the government's drive to explore new, potentially lucrative fisheries, including deepwater species such as the orange roughy.

Namibia's fisheries management regime is generally recognised as an example of effective governance in the context of a developing country. Moreover, as this paper has also outlined, the decline of the country's fish stocks can be traced back to the pre-independence period when Namibia's fisheries were heavily overexploited by Namibian, South African, and distant water fleets from Spain, Russia and other countries. The relatively recent emergence and subsequent rapid decline of Namibia's orange roughy

fishery, however, illustrates the difficulties of managing new fisheries, particularly deep sea trawl species.

The orange roughy (*Hoplostethus atlanticus*) is a slow-growing, long-lived species found in deep water around structures such as sea mounts and canyons. It is one of a number of deepwater species that occur widely on the continental shelf and tend to form dense aggregations for spawning or feeding. These characteristics make deepwater species particularly vulnerable to overfishing. Indeed, a review of deepwater fisheries has shown that many have followed a 'boom and bust' pattern.[46]

Figure 3: Globally significant orange roughy fisheries



Source: Clark MR, 'Deep sea sea-mount fisheries: A review of global status and future prospects', *Latin American Journal of Aquatic Research*, 37, 3, 2009, p. 506

In 1994 Namibia granted an exploratory fishing licence to a Namibian fishing company to search for commercial deepwater fish species. Over the next two years, four orange roughy aggregations were discovered. Each of these areas was managed individually as a Quota Management Area and in 1997 three companies were awarded quotas in order to fish these areas. Initially, five vessels targeted the orange roughy stock, with catches exceeding 18 000 tonnes in 1996/97. Within three years, however, catches had declined dramatically, and by 2006/07 only one fishing vessel still targeted orange roughy, with a total catch of 270 tonnes in that season.[47] Management officials and the fishing industry made a joint decision to place a three-year moratorium on the country's orange roughy fishery, which was to last from 2008 to 2010. However, at the time of writing, the moratorium remains in place, as the MFMR did not have a vessel with the necessary specialised equipment to undertake the required stock assessment studies until 2013. The MFMR has committed itself to undertaking the necessary survey in 2014 and pronounce on the status of the

stock in 2015.[48] Namibia's experience in attempting to develop its deep sea trawl fisheries holds important lessons for other African states that are also seeking to develop new fisheries in response to overfishing of traditionally targeted stocks. Fisheries governance legislation in many African states, including Namibia, requires the government to employ a precautionary approach in managing fisheries. As governments seek to diversify their fisheries, and as environmental change may result in the range of certain marine species shifting, the need for precautionary management based on the best available research is of particular importance.

The lens through which fisheries scientists and managers have viewed fisheries governance has progressively broadened, from an early emphasis on single-species management, to a multi-species perspective and later an ecosystem-based approach. Such perspectives, for example, would consider not only the sustainability of a country's sardine stocks but also the dependence of other valuable fish stocks, such as hake and snoek, as well as none-target marine life, such as seabirds and marine mammals. The large marine ecosystem approach expands the perspective further to consider cross-border implications of shared fish stocks as well as the impact of other industries such as oil and gas, shipping and tourism.

The Benguela Current large marine ecosystem (BCLME) extends northwards beyond Namibia into Angola, and also south along South Africa's western and southern coasts. Since the 1990s these three countries have been promoting a co-ordinated approach towards managing the BCLME, initially through the BCLME Programme (2002–2008) and BENEFIT, a regional marine science and training programme.[49] The BCC, the first inter-governmental commission in the world to be based on the large marine ecosystem concept of ocean governance, was established in 2007 through the signing of an interim agreement between the governments of Angola, Namibia and South Africa. The BCC was formalised in March 2013 with the signing of the Benguela Current Convention, which established the BCC as a permanent inter-governmental organisation. Priority interventions and strategies were identified through a consultative process that resulted in the production of a Transboundary Diagnostic Analysis, Strategic Action Programme and a Science Programme.

An example of the complexity facing the countries of the BCC is the emerging oil and gas industry. Namibia has experienced extremely limited oil and gas exploration. The only significant resource is the Kudu gas field, which lies 170 km north-west of the town of Oranjemund. The licence has been held by a number of companies, but currently Tullow Oil holds the majority interest. Other partners include Itochu and the Namibian state energy company, Namcor. In recent years, however, exploration for gas and oil reserves has increased significantly. Namibia's Large Pelagic and Hake Longlining Association has for years been lobbying the government to look into the impact of oil and gas exploration vessels on the tuna industry. Tuna catches have decreased considerably in recent years, from 4 000 tonnes in 2011 to 1 800 tonnes in 2012 and less than 1 000 tonnes in 2013. The MFMR established a task team in 2013 to consider whether seismic exploration for gas and oil may have an impact on tuna migratory patterns, a widely held belief in the tuna fishery.[50] The task team ultimately recommended that seismic exploration should take place outside the tuna fishing season and discussion are now under way with South Africa to implement similar measures.

The BCC has also played an important role in supporting research into the impact of climate variability on the ecosystem and fisheries system of the BCLME. One aspect of such climate variability is movement in the range of fish stocks.[51] There is some uncertainty as to the extent to which South Africa and Namibia's hake fisheries are based on a single, shared stock, but there is more certainty regarding the horse mackerel stocks that straddle the Namibian–Angolan border. Shared management of fish stocks is likely to be an increasingly important issue for the BCC and other regional bodies in future.

Exploration and development of hydrocarbon resources and minerals in Africa's maritime domain have increased significantly in recent years. Shifts in the range of fish stocks, the management of straddling stocks and developing an effective response to illegal fishing all require strengthened regional co-operation. Regional responses to fisheries governance challenges have also been initiated in West and East Africa, and knowledge sharing between these regions should be strengthened in order to build on the experiences and successes being achieved throughout Africa's coastal and inland waters.

CONCLUSION: GOOD PRACTICE MODEL OR NAMIBIAN EXCEPTIONALISM?

Much as Botswana is a frequently cited example of prudent governance of mineral resources in Africa, Namibia is widely recognised as an African country that has succeeded in establishing an effective fisheries governance system. Nevertheless, it has been argued that Namibia's governance model cannot simply be grafted onto other, quite distinct, political and socio-ecological systems elsewhere in Africa. Namibia has a small population, with a sparsely populated coastline and no significant traditional small-scale coastal fisheries. This differs markedly from the contexts of other coastal states in East and West Africa, where extensive traditional fisheries play a crucial role in the local economy and contribute significantly to food security. However, while national context may differ, this paper argues that the key lessons that have emerged from 20 years of fisheries governance in post-independence Namibia are highly relevant to other developing countries, particularly in Africa.

Perhaps the central element underlying various fisheries governance initiatives in Namibia has been the strong political leadership shown in governing the sector. This has been coupled with the prioritisation of the fisheries sector as a potentially lucrative, yet ecologically vulnerable, source of job creation, government revenue and value-added processing. This is the key illustrative lesson that Namibia holds for other African states. In fisheries, as in other natural resource governance systems, there is undoubtedly a need to 'get institutions right', yet without political leadership the broader governance system is bound to languish. This is, in part, because it is at the senior political level that the system of rent capture is established, and decisions about the investment of rents that accrue to government are made. States that rely on foreign vessels to exploit the fish stocks in their waters must negotiate effectively and resolutely to ensure that an equitable share of rents is paid to the state through taxes and levies. The first priority in deciding how to allocate these funds must be the governance of the fisheries system itself, which requires investment in research, adequate staffing, stakeholder engagement and effective monitoring, control and surveillance capabilities. Too often, fisheries rents are dissipated

through unrelated government spending programmes or lost to corruption. The case can certainly be made that many African countries have been receiving too small a share of the rents generated by fishing activities in their waters, but an equally important question is how the rent payments that do find their way into government coffers are spent.

The question of equity, even of restorative justice, cannot be ignored in the setting of African fisheries. Carter and Olinto[52] have cautioned that the imperative of getting the institutions right often glosses over existing power relationships and societal concerns. Therefore, one must posit the rejoinder: Get the institutions right for whom?[53] It is true that Namibia does not face the difficult question of balancing the needs of an extensive small-scale traditional fishery with those of large-scale industrial fisheries, as is the case in Mozambique, Senegal and many other African littoral states. However, Namibia shares with these states the question of how the fisheries sector can be used to promote job creation, value addition and greater local ownership. In this area too, Namibia holds important lessons for other African states. The Namibian state has shifted rights allocations to Namibian citizens, and incentivised joint ventures and local ownership by allocating longer-term rights to firms that can show a significant share of Namibian ownership. More significantly still, it has chosen to forego sizeable rents by allowing rebates on quota fees for firms with significant local ownership or with Namibian-based vessels. Local processing and job creation have also been incentivised through this rebate system and the rights allocation process. The shift in rights allocation from freezer hake trawl vessels to wet fish trawlers was explicitly informed by the desire to promote local processing and job creation. As this paper and various others have shown, Namibia has paid a high price for these policies in foregoing income from fisheries, while the Namibianisation policy itself has been shown to be vulnerable to abuse.[54] Fronting, as Namibia's Fisheries Minister has conceded, is a problem in pursuing meaningful transformation of the industry.[55]

Institutions shape incentives, and incentives shape behaviour. Namibia must face the reality that for new quota holders the rational option, if they are permitted to follow this course, is to exchange their quota for cash without any accompanying risk rather than pursue the complicated option of investing in personnel, vessels and other aspects of fishing operations. This challenge can only be addressed by more effective monitoring of all fishing ventures against the investment and management plans that formed the basis of their rights application.

Despite the various accolades that Namibia has received for its fisheries governance efforts, a detailed review of the country's fisheries governance system reveals a more nuanced picture. Sardine stocks remain in a collapsed state, hake stocks have increased slowly and remain at low levels, and orange roughy fisheries were rapidly depleted under the MFMR's watch. The blame for these challenges cannot be placed entirely on the MFMR, as there is strong evidence that overfishing has resulted in a regime shift towards a less productive system dominated by low-value species such as gobies and jellyfish. Environmental change has also played an important role in shaping the fisheries system. Namibia has achieved notable success in addressing illegal fishing, promoting local ownership and local processing, but there are undoubtedly a range of issues that continues to require focused intervention, chief among them the need for greater accountability among both new and established players in Namibia's fisheries sector.

ENDNOTES

1 World Future Council, 'Best oceans policies awarded at UN Biodiversity Summit', press release. Hamburg: World Future Council, 2012, http://www.worldfuturecouncil.org/fpa-ceremony.html, accessed 12 May 2014.

2 Sakko AL, 'The influence of the Benguela upwelling system on Namibia's marine biodiversity', *Biodiversity and Conservation*, 7, 1998, pp. 419–433.

3 Paterson B, Kirchner C & E Ommer, 'A short history of the Namibian hake fishery: A social-ecological analysis', *Ecology and Society*, 18, 4, 2013, p. 66.

4 Sumaila UR & M Vasconcellos, 'Simulation of ecological and economic impacts of distant water fleets on Namibian fisheries', *Ecological Economics*, 32, 2000, pp. 233–290.

5 David J, *Appendix 3: A Brief History of the Namibian Fishery; Project: The Dredging of Marine Phosphate Enriched Sediments from Mining Licence Area No. 170, March 2012, Environmental Impact Assessment Report Dredging of Marine Phosphate Enriched Sediments from MLA 170. Namibian Marine Phosphate (Pty) Ltd.*, http://www.envirod.com/pdf/draftsapril2012/NMP_FEIAR_App_3_Namibian_Fishery_30March2012.pdf, accessed 25 May 2014.

6 *Ibid.*

7 Nichols P, 'Marine Fisheries management in Namibia: Has it worked?', in Sumaila UR *et al.* (eds), *Namibia's Fisheries: Ecological, Economic and Social Aspects*. Delft: Eburon Academic, 2004, pp. 319–332.

8 Goodisan, 'Two decades of rebuilding fisheries in Namibia', *Economics of Rebuilding Fisheries: Case Studies of Fisheries Rebuilding Plans*. Paris: OECD (Organisation for Economic Cooperation and Development), 2012, http://www.oecd.org/tad/fisheries/Namibia%20case%20study%20Rebuilding%20Fisheries%202012.pdf, accessed 3 June 2014.

9 Sumaila UR & K Stephanus, 'Declines in Namibia's sardine catch: The reasons and the consequences', in Hannesson R & F Herrick (eds), *Climate Change and the Economics of the World's Fisheries: Examples of Small Pelagic Stocks*. Cheltenham: Edward Elgar, 2006, pp. 205–214.

10 David J, *op. cit.*

11 Nichols P, *op. cit.*

12 Republic of Namibia, The Constitution of the Republic of Namibia, 1990. *Government Gazette of the Republic of Namibia* No 2, 21 March 1990, amended by the Namibian Constitution First Amendment Act, 1998, *Government Gazette*, 24 December 1998. Windhoek: Republic of Namibia.

13 MFMR (Ministry of Fisheries and Marine Resources of Namibia), 'Towards Responsible Development of the Fisheries Sector'. Windhoek: MFMR, 1991.

14 Manning P, 'The Namibian Hake Fishery', in Cunningham S & T Bostock, *Successful Fisheries Management: Issues, Case Studies and Perspectives*. Delft: Eburon, 2006.

15 Olsen BM, 'Institutional and industrial perspectives on fisheries management in Namibia', in Sumaila UR *et al.* (eds), *op. cit.*, pp. 267–288.

16 *The Courier*, 'Country reports: Namibia', 153, September–October 1995, http://www.nzdl.org/gsdlmod?e=d-00000-00---off-0hdl--00-0----0-10-0---0---0direct-10---4-------0-1l--11-en-50---20-about---00-0-1-00-0-0-11-1-0utfZz-8-00&cl=CL3.11&d=HASH3c93f76d8d2b9bf8579253.3.2&gt=1, 3 June 2014.

17 Iyambo A, 'Managing fisheries with rights in Namibia: A minister's perspective', in Shotton R (ed), 'Use of Property Rights in Fisheries Management', FAO (Food and Agriculture Organization), Fisheries Technical Paper 404/1. Rome: FAO, 2000.

18 *Merluccius capensis* and *M. paradoxus*.

19 Demersal hake trawling is not permitted in waters shallower than 200 m north of 25 ^{0}S or 300 m south of 25 ^{0}S. No midwater trawling is permitted in waters shallower than 200 m.

20 Paterson B & Kainge P, 'Rebuilding the Namibian hake fishery: A case for collaboration between scientists and fishermen', *Ecology and Society*, 19, 2, 2014, p. 49.

21 Abankwah C, 'Horse mackerel overtakes hake', *Windhoek Observer*, 10 May 2013, http://www.observer24.com.na/8-latest-news/1458-horse-mackerel-overtakes-hake, accessed 12 May 2014.

22 Tallaksen E, 'Namibia to swop fishmeal for VAP in inshore horse mackerel TAC', *Undercurrent News*, 10 April 2014, http://www.undercurrentnews.com/2014/04/10/namibia-to-swap-fishmeal-for-vap-for-inshore-horse-mackerel-tac/, accessed 3 June 2014.

23 See Ajibola C, 'Taking fish to the people', *Namibia Economist*, 29 May 2014, http://www.economist.com.na/special-focus/5522-taking-fish-to-the-people, accessed 15 June 2014.

24 NAD is the currency code for the Namibian dollar.

25 Abankwah C, *op. cit*.

26 World Bank & FAO, *The Sunken Billions: The Economic Justification for Fisheries Reform*. Washington, DC: World Bank, 2009, http://siteresources.worldbank.org/EXTARD/Resources/336681-1224775570533/SunkenBillionsFinal.pdf, accessed 3 June 2014.

27 Rent in fisheries is the difference between the revenues from fishing and the costs of fishing activities, including normal profits that account for the opportunity cost of engaging in fishing.

28 See UN, *United Nations Convention on the Law of the Sea* (UNCLOS), article 56 – 1(a), http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf, accessed 12 May 2014.

29 Ithindi AP, *Rent Capture in the Namibian Fisheries: The Case of Hake*, Final project report for the UN University Fisheries Training Programme, 2003, http://www.unuftp.is/static/fellows/document/pendaprf.pdf, accessed 3 June 2014.

30 See Goodisan P, 'The Namibian fishing experience', *SAMUDRA*, June 1992, http://www.icsf.net/en/samudra/detail/EN/263.html, accessed 25 May 2014.

31 Kirchner C & A Leiman, 'Resource rents and resource management policies in Namibia's post-independence hake fishery', *Maritime Studies*, 13, 2014, p.7.

32 Hersoug B & P Holm, 'Change without redistribution: An institutional perspective on South Africa's new fisheries policy', *Marine Policy*, 24, 2000.

33 Olsen BM, 'Institutional and industrial perspectives on fisheries management in Namibia', in Sumaila UR *et al.* (eds), *op. cit*.

34 Namibian-based vessels are Namibian-registered but are not domestically majority-owned and have a crew of less than 90% Namibians.

35 World Trade Organization, *Namibia: Report by the Secretariat: Annex 3*, http://www.paulroos.co.za/wp-content/blogs.dir/12/files/2011/uploads/Annex_3_Namibia.pdf, accessed 25 May 2014.

36 Manning P, 'Managing Namibia's Fisheries as a Vehicle for Development: A common pool resource or candidate for tradable pool rights?', presentation at the conference on 'Reinventing the Commons', Indiana University, United States, 1995.

37 The word *fronting* is widely used in the Southern African region to denote tokenism or superficial inclusion of historically disadvantaged individuals (definition provided by http://www.capegateway.gov.za, accessed 2 August 2014).

38 Melber H, 'Of big fish & small fry: the fishing industry in Namibia', *Review of African Political Economy*, 30, 95, 2003, pp. 142–149, quoted in Kirchner C & A Leiman, *op. cit.*, p. 4.

39 See Grobler J, 'Depletion of the Namibian seas', *Fair Grants Investigations 2007*, http://fair reporters.files.wordpress.com/2011/11/fair-grants-investigations-2007.pdf, accessed 8 August 2014; and Rey MG & J Grobler, 'Spain's hake appetite threatens Namibia's most valuable fish', *Center for Public Integrity*, 4 October 2011, http://www.publicintegrity.org/2011/ 10/04/6769/ spain-s-hake-appetite-threatens-namibia-s-most-valuable-fish, accessed 15 May 2014.

40 *The Villager Reporter*, 'Novanam fleeces GRN of N$1.2b', 27 May 2014, http://www.thevillager. com.na/articles/6442/Novanam-fleeces-GRN-of-N-1-2b/, accessed 3 June 2014.

41 Kirchner C & A Leiman, *op. cit.*

42 MFMR, 'Policy Statement (Guidelines) for the Granting of Rights to Harvest Marine Resources and the Allocation of Fishing Quotas', 2009, http://www.mfmr.gov.na/documents /53305 /832050/Policy_draft_July09/9df9b7ef-e89a-4bcd-aa2f-c7dfabe2f1b4, accessed 2 June 2014.

43 Immanuel S, 'Fishing sector worries Esau', *The Namibian*, 8 April 2014, http://www.namibian. com.na/indexx.php?archive_id=121989&page_type=archive_story_detail&page=1, accessed 15 May 2014.

44 Roux JP *et al.*, 'Jellyfication of marine ecosystems as a likely consequence of overfishing small pelagic fishes: Lessons from the Benguela', *Bulletin of Marine Science*, 89, 1, 2013, pp. 249–284.

45 Kirchner C, Kainge P & J Kathena, 'Evaluation of the Status of the Namibian Hake Resource (*Merluccius spp.*) Using Statistical Catch-at-Age Analysis', Environment for Development, Discussion Paper Series, October 2012, http://www.efdinitiative.org/sites/default/files/efd-dp-12-1220evaluation20of20the20status.pdf, accessed 25 May 2014.

46 Clark MR, 'Deep sea sea-mount fisheries: A review of global status and future prospects', *Latin American Journal of Aquatic Research*, 37, 3, 2009, pp. 501–512.

47 Deepfishman, 'Case study 1a: Namibian orange roughy socioeconomic study', Institute of Economic Studies, University of Iceland, November 2010, http://wwz.ifremer.fr/deepfishman/ content/download/35621/484437/file/cs1a_se.pdf, accessed 25 May 2014.

48 *Namibian Sun*, 'Local fish stocks growing', 6 April 2014, http://sun.com.na/business/local-fish-stocks-growing.64686, accessed 2 June 2014.

49 Benguela Current Commission, 'The BCLME Programme', http://www.benguelacc.org/index. php/en/about/the-history-of-the-bcc/the-bclme-programme, accessed 10 December 2014.

50 Templeton A, 'Convention to come into effect as tuna catch plummets', *Moneyweb*, 6 August 2014, http://www.moneyweb.co.za/moneyweb-south-africa/convention-to-come-into-effect-as-tuna-catch-plumm, accessed 25 May 2014.

51 See, for example, de Young C & A Hjort, 'Climate change implications for fisheries of the Benguela Current region', *FAO Fisheries and Aquaculture Proceedings* No 27, November 2011, http://www.fao.org/docrep/017/i3053e/i3053e00.htm, accessed 2 June 2014.

52 Carter MR & P Olinto, 'Getting institutions 'right' for whom? Credit constraints and the impact of property rights on the quantity and composition of investment', *American Journal of Agricultural Economics*, 85, 1, 2003, pp. 173–186.

53 *Ibid.*

54 See Armstrong CW *et al.*, 'Benefits and costs of the Namibianisation policy', in Sumaila UR *et al.* (eds), *op. cit.*, pp. 319–332; and Nichols P, 'Marine fisheries management in Namibia: Has it worked?', in Sumaila UR *et al.* (eds), *ibid*, pp. 319–332.

55 *The Villager Reporter*, 'Novanam fleeces GRN of N$1.2b', 27 May 2014, http://www.thevillager. com.na/articles/6442/Novanam-fleeces-GRN-of-N-1-2b/, accessed 5 August 2014.

SAIIA'S FUNDING PROFILE

SAIIA raises funds from governments, charitable foundations, companies and individual donors. Our work is currently being funded by, among others, the Bradlow Foundation, the UK's Department for International Development, the British High Commission of South Africa, the Konrad Adenauer Foundation, the Royal Norwegian Ministry of Foreign Affairs, the Royal Danish Ministry of Foreign Affairs, the Swedish International Development Cooperation Agency, the Organisation for Economic Co-operation and Development, and the Open Society Foundation for South Africa. SAIIA's corporate membership is drawn from the South African private sector and international businesses with an interest in Africa. In addition, SAIIA has a substantial number of international diplomatic and mainly South African institutional members.

South African Institute of International Affairs
Jan Smuts House, East Campus, University of the Witwatersrand
PO Box 31596, Braamfontein 2017, Johannesburg, South Africa
Tel +27 (0)11 339-2021 • Fax +27 (0)11 339-2154
www.saiia.org.za • info@saiia.org.za

South African Institute of International Affairs
African perspectives. Global insights.