
STOP ILLEGAL FISHING IN
SOUTHERN AFRICA

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The Stop Illegal Fishing Programme supports the policy process to stop Illegal, Unregulated and Unreported (IUU) fishing in Southern Africa.

Stop Illegal Fishing are committed to offering a broad spectrum of opinions and views from a variety of stakeholders on the issue of illegal fishing and how to stop it. The Stop Illegal Fishing Team are grateful to all of those who have contributed articles to this publication. The opinions expressed within this publication are those of the authors, and not necessarily those of Stop Illegal Fishing.

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Please contact the Programme Coordination Team on pct@stopillegalfishing.com for more copies of this publication, or for more information on the Stop Illegal Fishing programme. *Stop Illegal Fishing In Southern Africa* is also available in French and Portuguese. PDF versions of this publication in English, French and Portuguese are available to download from www.stopillegalfishing.com.

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A publication produced by the
Stop Illegal Fishing Programme

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ACRONYMS

ACP	African, Caribbean and Pacific
ADF	French Development Agency
AFMA	Australian Fisheries Management Authority
ASCLME	Agulhas and Somali Current Large Marine Ecosystem
AU	African Union
BCLME	Benguela Current Large Marine Ecosystem
BENEFIT	Benguela Environment Fisheries Interaction and Training Programme
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CECAF	Fishery Committee for the Eastern Central Atlantic
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNFC	China National Fisheries (Group) Corporation
COFI	FAO Committee on Fisheries
COMESA	Common Market for Eastern and Southern Africa
CSP	Centre for Fisheries Surveillance, Madagascar
DFID	Department for International Development, UK
DPRH	Directorate of Fisheries and Marine Resources, Madagascar
DRC	Democratic Republic of Congo
DWFS	Distant Water Fishing Fleets
EC	European Commission
EEZ	Exclusive Economic Zone
EJF	Environmental Justice Foundation
EPAs	Economic Partnership Agreements
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FFA	Forum Fishery Agency
FOA	Fisheries Observer Agency
FONC	Flags of Non Compliance
GAPCM	Groupement des Aquaculteurs et Pêcheurs de Crevettes de Madagascar
GCLME	Guinea Current Large Marine Ecosystem
GDP	Gross Domestic Product
GEF	Global Environment Fund
GSP	Generalised System of Preference
hp	horse power
HSTF	High Seas Task Force
ICCAT	International Commission for the Conservation of Atlantic Tuna
ICTSD	International Centre for Trade and Sustainable Development
IMO	International Maritime Organisation
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IPOA-IUU	International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported and Unregulated
km	kilometre
LDC	Least Developed Country
LOLE	Law for Local State Bodies, Mozambique
MCS	Monitoring, Control and Surveillance
MEP	Member of the European Parliament
MLRA	Marine Living Resources Act
MRA	Marine Resources Act
MRAG	Marine Resources Assessment Group
MSC	Marine Stewardship Council
n.m.	Nautical Miles
NCG	Mauritian National Coast Guard
NEAFC	North East Atlantic Fisheries Commission
NFDS	Nordenfjeldske Development Services
NGO	Non Governmental Organisation
NMS	National Monitoring System
NOAA	National Oceanic and Atmospheric Administration
NPOA	National Plan of Action
NPOA-IUU	National Plan of Action on Illegal, Unreported and Unregulated Fishing
OECD	Organisation for Economic Cooperation and Development
PFOI	Pêche et Froid Océan Indien
PONC	Ports of Non Compliance
Reefers	Refrigerated Supply Vessels
RFMOs	Regional Fisheries Management Organisations
RMB	Regional Management Bodies
RoO	Rules of Origin
SADC	Southern African Development Community
SEAFO	South East Atlantic Fisheries Organisation
SWIO	South West Indian Ocean
SWIOFC	South West Indian Ocean Fisheries Commission
SWIOFP	South West Indian Ocean Fisheries Programme
TAC	Total Allowable Catch
UK	United Kingdom
UNCLOS	United Nations Convention on the Law of the Sea
UNCTD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNFSA	United Nations Fish Stock Agreements
UNGA	United Nations General Assembly
US	United States
VMS	Vessel Monitoring System
WCPFC	Western Central Pacific Fisheries Commission
WIOMSA	West Indian Ocean Marine Science Association
WTO	World Trade Organisation
WWF	World Wide Fund for Nature International



stop illegal fishing

The Stop Illegal Fishing Programme

By Sandy Davies and Per Erik Bergh, Stop Illegal Fishing Programme Coordination Team

As fish stocks decline and the demand for fish and seafood increases, illegal fishing and the trade of illegal fish is becoming an increasingly attractive option for some operators. At the same time governments around the world are working together to tighten the controls on fishing vessels, fishing activities, the transport of fish and the trade of fish in an effort to stop illegal fishing and to better manage their fishery resources.

Globally we are still falling short of achieving this and without doubt illegal fishing activities and other supporting illegal actions are taking place every minute in every ocean of the world. The potential consequences of this are big, and they are well documented in various articles in this publication. Losses in income, livelihood options, food security as well as environmental damage are some of the repercussions of illegal fishing. Outcomes that counteract development achievements and make progress in reaching development targets move further out of reach.

On 23 May 2002, the Hon. Minister Valli Moosa of South Africa raised a strong concern about illegal fishing and poaching performed both by local companies and fleets flying Flags of Convenience including those of the developed world. Along with his fellow Ministers responsible for marine fisheries in the region they agreed and committed themselves to cooperate with other nations and to come together to find solutions to stop this crime. Since that time much has happened, nationally and regionally - countries have strengthened their national monitoring, control and surveillance systems; vessels have been arrested, detained and fined; regional fishery management bodies and organisations have been formed; and joint surveillance activities have taken place - but still the illegal fishing continues.

Thanks to Dr. Abraham Iyambo, the Minister of Fisheries and Marine Resources in Namibia's engagement in the international High Seas Task Force and his ensuing discussions with the UK Government, a new cooperation and momentum has begun. A cooperation based on the spirit of the 2002 SADC meeting agreement, a cooperation to facilitate a stronger policy and practical process to stop illegal fishing in Africa. This cooperation and process is facilitated by the Stop Illegal Fishing Programme – a programme that began in July 2007.

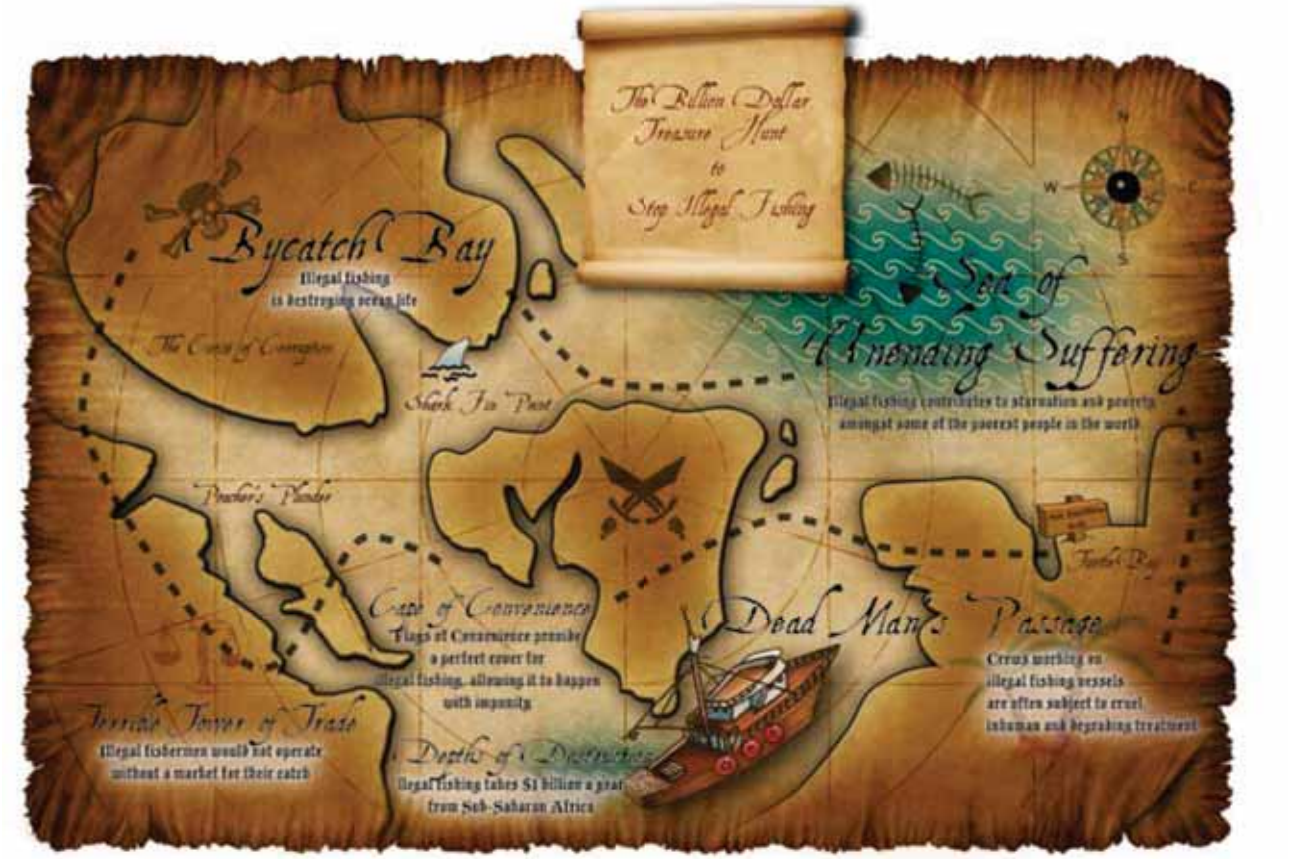
The Stop Illegal Fishing Programme, in its short lifespan has supported two regional workshops; one was in cooperation with countries of the Indian Ocean that looked at the issues around illegal, unreported and unregulated fishing and how to move forward to overcome this, while another was on the issue of port State measures. Studies have been conducted to improve our understanding and knowledge of the status and potential impacts of illegal fishing and the impact of flags and ports of non-compliance on the region. A revealing



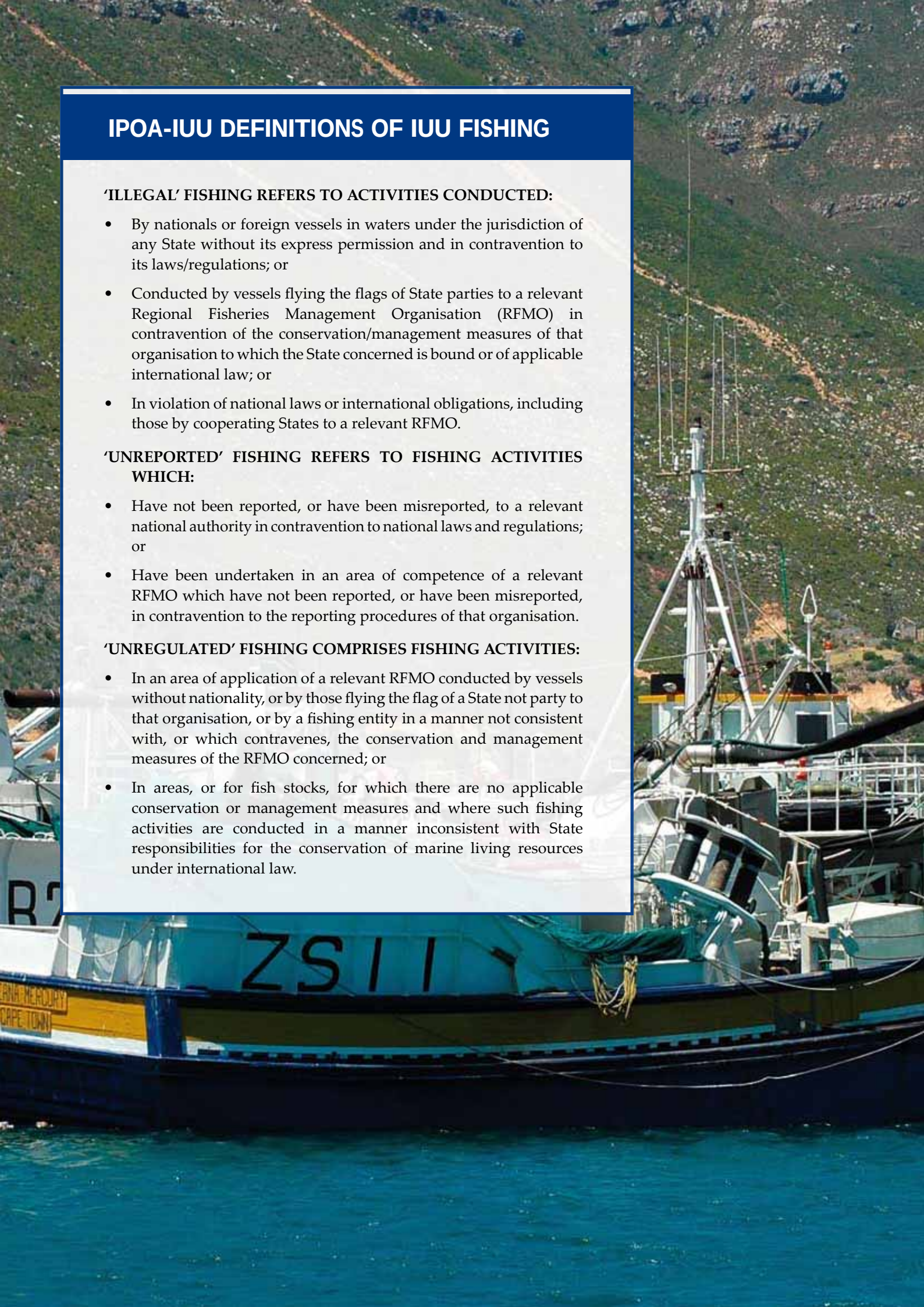
study on the status of the implementation of the International Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) in each Southern African country led to assistance in three countries to progress further on the road to their own national plans as a means to create a fundament for regional cooperation. A website has also been established to form the backbone of information exchange and dissemination and create greater awareness of the issues around illegal fishing and the programme itself (www.stopillegalfishing.com).

It has been estimated that in sub-Saharan Africa illegal fishing is worth about US$1 billion a year, a figure that has drawn attention to the enormity of the crime and that has driven the quest by Southern African leaders to win back these fish.

The Stop Illegal Fishing Programme has received an overwhelmingly positive response from the governments it has been working with indicating a firm commitment to deal with illegal fishing both at a national and regional level. The Stop Illegal Fishing Programme will continue to support this determination to make illegal fishing history.



It is estimated that illegal fishing costs sub-Saharan Africa US$1 billion a year.



IPOA-IUU DEFINITIONS OF IUU FISHING

'ILLEGAL' FISHING REFERS TO ACTIVITIES CONDUCTED:

- By nationals or foreign vessels in waters under the jurisdiction of any State without its express permission and in contravention to its laws/regulations; or
- Conducted by vessels flying the flags of State parties to a relevant Regional Fisheries Management Organisation (RFMO) in contravention of the conservation/management measures of that organisation to which the State concerned is bound or of applicable international law; or
- In violation of national laws or international obligations, including those by cooperating States to a relevant RFMO.

'UNREPORTED' FISHING REFERS TO FISHING ACTIVITIES WHICH:

- Have not been reported, or have been misreported, to a relevant national authority in contravention to national laws and regulations; or
- Have been undertaken in an area of competence of a relevant RFMO which have not been reported, or have been misreported, in contravention to the reporting procedures of that organisation.

'UNREGULATED' FISHING COMPRISES FISHING ACTIVITIES:

- In an area of application of a relevant RFMO conducted by vessels without nationality, or by those flying the flag of a State not party to that organisation, or by a fishing entity in a manner not consistent with, or which contravenes, the conservation and management measures of the RFMO concerned; or
- In areas, or for fish stocks, for which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of marine living resources under international law.

SITUATION STATUS

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By Denzil Miller[1],
Commission for the Conservation of Antarctic Marine Living Resources Secretariat

What is IUU fishing and what measures can be taken to stop it?

Illegal, Unreported and Unregulated (IUU) Fishing

A common misconception is that all Illegal, Unreported and Unregulated (IUU) fishing is illegal. Equally, IUU fishing is frequently considered to constitute piracy. From a legal perspective, neither of these perceptions is technically correct.

During the first half of the 1990s, a growing number of international legal instruments were negotiated under the auspices of the 1982 United Nations Convention on the Law of the Sea (UNCLOS)[2]. These 'hard' (legally binding) and 'soft' (non-legally binding) agreements outlined provisions to combat unsustainable fishing practices and to promote conservation of fishery resources. The most prominent examples of 'hard instruments' of the time are the 1993 Compliance Agreement[3] and the 1995 United Nations Fish Stocks Agreement[4]. The most prominent 'soft' instrument is the 1995 FAO Code of Conduct for Responsible Fisheries[5].

In keeping with its own, and growing, global concerns, the 25-nation Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), in 1997, became the first Regional Fisheries Management Organisation (RFMO) to formally address IUU fishing on its agenda[6]. However, the term 'IUU fishing' was not explicitly defined until 2001, with publication of the FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)[7].

The IPOA-IUU definitions of IUU fishing (see Page viii) highlight the point that not all IUU fishing is illegal, since unregulated fishing may take place in a manner that is not in violation of applicable legal statutes or international law.

Similarly, describing IUU fishing as 'piracy' is legally untenable, since the latter term is given a very precise legal definition in Article 101 of the UNCLOS. Essentially, piracy is confined to illegal acts of violence or detention, or any act of depredation, committed for private ends, which is directed against another ship, aircraft, person, or attached property, on the high seas or outside the jurisdiction of any State. However, there are parallels, as IUU activities may be viewed as depredatory since they diminish the effectiveness of fisheries management measures, result in lost economic opportunities for legitimate fishers, and undermine food security. In these terms, the IUU acronym could be viewed as shorthand for 'Insidious, Unfair and Unsustainable'.

As with other forms of unsustainable or 'irresponsible' fishing, IUU activities sacrifice long-term biological capital in favour of shorter-term economic, or social, gain. The danger is that such activities usually operate without constraint and fall outside any form of scrutiny, transparency or accountability – a danger recognised by various high level ministerial declarations and the United Nations General Assembly (UNGA) itself. In fact, the UNGA has called for States to take all measures consistent with international law to prevent, deter and eliminate IUU[8].

Where does IUU fishing occur?

Contrary to popular belief, IUU activities are not simply a manifestation of sophisticated Distant Water Fishing Fleets (DWFS) finding ways to

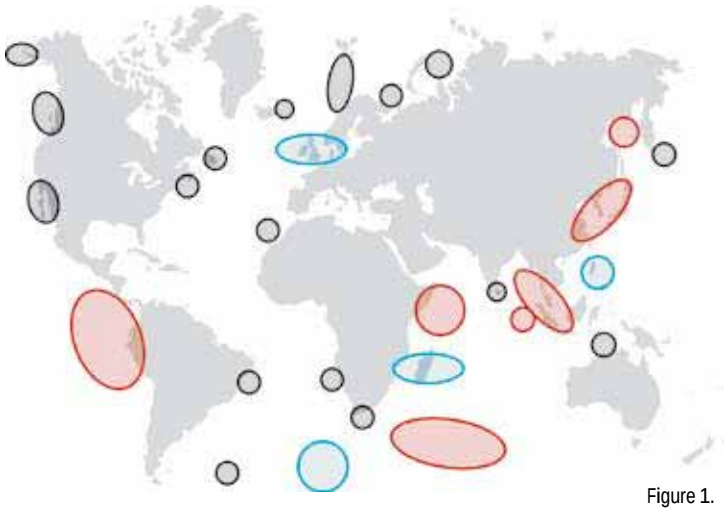


Figure 1.
Location of vessels implicated in IUU fishing (after Sumaila et al. 2006. Global Scope and Economics of Illegal Fishing. Marine Policy 30: 696-703.)

circumvent regulatory or control measures on the high seas. It is a global phenomenon (see Figure 1) that affects fisheries under coastal State jurisdiction, as well as those on the high seas regulated by RFMOs, or not at all[9].

Notable examples include:

- The Patagonian toothfish fishery in the CCAMLR area and in adjacent coastal State Exclusive Economic Zones (EEZs);
- Fishing for various tuna species in the area regulated by the International Commission for the Conservation of Atlantic Tuna (ICCAT) and in the Pacific Ocean in general;
- Fishing in defiance of measures promulgated by the North East Atlantic Fisheries Commission (NEAFC); and
- Fishing in the EEZs of a number of developing States worldwide, particularly off the coasts of East and West Africa.

Why does IUU fishing take place?

There is little doubt that the underlying causes for IUU fishing are complex. In many cases, the actual activity of fishing is not the origin of the IUU problem. The origins may be as diverse as the need to address individual starvation, attempting to alleviate poverty for previously marginalised communities and pure economic greed aimed at taking advantage of potential loopholes in regulations to the financial benefit of a select group of individuals[10].

For IUU activities to prevail, they need to be resilient to regulatory measures. An essential pre-requisite for IUU fishing, therefore, is to avoid detection and possible sanction. IUU activity itself is often linked to crime, or is intertwined with it in some way. The mindset that motivates crime is not too different to that which motivates IUU activities. Seeking personal advantage to the disadvantage of others is a fundamental motive for many IUU fishery operators and the acceptance of the attached risks is the cost of doing business.

How do we stop IUU fishing?

IUU activities are resilient to regulatory, particularly international, measures. IUU operators are given considerable operational flexibility, due to easy access to non-compliant, for whatever reason, flags (i.e. Flags of Convenience). Measures aimed at stopping IUU fishing that focus on at-sea activities are therefore limited in effect, since they do not address all the essential IUU elements, especially vessel registration and the landing of catches in port.

Effective measures to counter IUU activities must address what is essentially a cost-benefit paradigm. Measures should not only focus on the

IUU activities sacrifice long-term biological capital in favour of shorter-term economic, or social, gain.

Photo: Susan Schulman

Poverty is a common cause of illegal fishing.

elements outlined above; they should also interlink essential cross-elements where these promote a "comprehensive and integrated approach[11]." Such an approach recognises that the incentives offered by IUU activities are balanced with the likelihood of detection, along with the penalties that may accrue as a result[12]. The IUU operators, for their part, then factor the risks attached to such likelihood into operational costs and expected profit margins. Consequently, this is likely to lead to active avoidance strategies (e.g. trans-shipment at-sea) to reduce the risk of detection, and ultimately sanction.

Like the IUU operator, the regulator is forced to balance the cost-effectiveness of monitoring, control and surveillance (MCS) activities with the benefits likely to accrue from effectively countering IUU activities.

The global nature of IUU activities tends to threaten fisheries governance in areas that can least afford it, since such activities undermine management measures and compromise the sustainability of legitimate fishing. This mandates a significant commitment of valuable and often limited resources to counter IUU activities – a problem of particular significance for developing States and affected RFMOs[13]. IUU activities negatively compound management uncertainty to almost intolerable levels, thereby enhancing the priority and urgency for counter-action.

The key actions to combat IUU fishing are:

Denial of Access: This entails regulatory action to deny IUU access to fishing grounds or stocks, particularly when stocks are already over-exploited. Measures include:

- Effective licensing and control of vessels allowed to fish by flag States;
- Full-time positional reporting by licensed vessels via vessel monitoring systems (VMS);
- Surveillance and interception of irresponsible fishing by on-water patrols; and
- The promotion of effective flag State control in a broader context through the implementation of RFMO measures, such as 'white' or 'black lists' to identify 'bad actors'.

Monitoring and Regulatory Enforcement: Both fishing and trade in fish products are monitored to provide essential information and to regulate attached activities (such as port landings, etc.). Effective monitoring measures to collect essential data have included:

- The deployment of scientific observers to collect at-sea fisheries information;
- The application of port State measures to monitor catch landings; and
- The implementation of catch document, or certification, schemes to gather trade information.

Port inspections and the possible denial of port access and impeding product supply have served as effective deterrents to IUU fishing. Such action has been used to trigger non-flag ('long-arm'), such as Lacey Act type, measures. It has also provided information to identify so-called 'beneficial' owners, or those individuals enjoying the ultimate economic benefits of IUU activities[14].

Legitimising Responsible Fishing: The effective implementation of the universal duty to cooperate in the conservation of marine living resources is required. This necessitates coordinated action by both States and RFMOs to ensure that the provisions of Articles 63, 64, 117 and 118 of the UNCLOS are promoted and essentially met[15]. There should also be global recognition of the need for compliance with the terms and conditions of conservation measures set by coastal States in waters under their jurisdiction provided for in UNCLOS Article 62.

Cooperation between States and RFMOs is essential, as is cooperation between RFMOs

themselves. For this cooperation to be effective, it is necessary that objective and verifiable information on IUU activities is shared. For a coherent and universal strategy to counter IUU activities, a common political understanding of the action required, together with support for such action, is essential. A clear expectation of many States is that the cost-benefit equation for countering IUU activities falls in favour of eliminating such activities.

To ensure that the benefits of countering IUU activities outweigh the inherent costs requires:

- Specific acknowledgement of the legitimacy of such actions;
- Recognition that regulatory capability may not be consistent across all States or RFMOs; and
- Recognition that robust regulation may go beyond the regulation of IUU fishing alone.

Certain States choose not to take any action to counter IUU activities and may in fact encourage participation as a means of gaining short-term economic gain, through actions such as collecting revenue from high seas fishing licenses. It follows that such States do not, or are unable to, stand firm on flag State duties.

Articles 24-26 of the United Nations Fish Stocks Agreement (UNFSA) have built on Articles 61.(3), 62.(2), 62.(3) and 119.(1).(a) of the UNCLOS to clearly recognise that developing States may require direct assistance to enjoy their international rights to sustainably harvest high seas marine living resources in particular, and to ensure compliance with, and including enforcement of, relevant conservation measures.

Under UNFSA, assistance to developing States may be directly supplied or may be provided through relevant RFMOs. It aims at enhancing the participation by such States in high seas fisheries, and in improving the conservation and management of highly straddling and migratory fish stocks in particular. The latter includes the provision of necessary technical assistance for enforcement and MCS activities. Both enforcement training and technological transfer are important elements in this regard.

No 'silver bullet' is likely to eliminate IUU activities completely. However, responsible fishing should be encouraged, by ensuring long-term legitimacy for licensed fishing, along with the sustainability of the target stocks being harvested. Practically based instruments, such as the Code of Conduct and the Southern African Development Community (SADC) Fisheries Protocol[16], demonstrate great promise for the improved implementation of both national and regional fisheries agreements. The boost that such instruments give to political will provides a clear incentive for global coordination, and the standardisation of national, and international, legislative provisions[17] to deal with IUU activities.

Photo: Australian Fisheries Management Authority (AFMA)

The end of the road for an apprehended illegal fishing vessel.

For footnote details see page 84.

By MRAG Ltd (UK) and Capfish (South Africa)

What is the level and severity of IUU fishing, and its impact on the economies, fish stocks and people of the region?

Study and Analysis of the IUU Fishing Situation in the SADC Region

It is difficult to obtain concrete figures on illegal fishing activities, precisely because they are illicit and therefore evade the established control measures and monitoring systems. However, based on information obtained from a range of sources including management authorities, infraction registers, port authorities, industry representatives, regional monitoring, control and surveillance (MCS) initiatives, media coverage and various stakeholders, estimates of the levels, typology and impacts of IUU in the various fisheries can be made.

IUU is an ever-evolving complex combination of behaviours and ranges in the SADC region from under- or misreporting of catches by legitimate operators, sophisticated schemes of laundering fish to circumvent international trade measures and elements of organised crime syndicates, as well as blatant violation of coastal States' Exclusive Economic Zones (EEZs) and conflicts between unlicensed foreign vessels and local artisanal fishermen.

Some of the IUU case studies from the report include:

1. Misreporting by longline vessels:

During 2007, there were in excess of 600 port visits in Indian Ocean SADC ports by unlicensed small longline vessels (under 30 metres class), mostly flagged in Taiwan, Indonesia, Thailand, Malaysia and the People's Republic of China. Precise fleet numbers are not known but these vessels mostly use pelagic longline gear with wire traces. They have an average trip length of approximately 2-3 weeks with a carrying capacity of 40-60 tonnes and target mostly tuna and shark species. There is currently no requirement for this fleet to report to the coastal State concerned by vessel monitoring system (VMS) but direct observations and expected autonomy suggest that they do not fish exclusively outside SADC EEZs.

A major concern is that many of these vessels do not meet the standards set by the Indian Ocean Tuna Commission (IOTC), the organisation responsible for the management of the tuna and tuna-like species in the Indian Ocean. For example, many of them are not registered with the IOTC and do not carry logbooks nor report catches in an adequate manner to their flag State. Furthermore, vessel markings are often inadequate and on occasions do not exist at all. Vessels have also been known to change their name during port visits, making it extremely difficult for them to be monitored.

THE FV PUTRA JAYA

The FV Putra Jaya No. 33, an Indonesian flagged fishing vessel was arrested by the Mauritian National Coastguard (NCG) in January 2008 for fishing illegally in the Mauritian EEZ about 132 nautical miles south east of the island.

The Master of the vessel, Tsai Chi Yuan, was unable to confirm the origin of the 30 tonnes of tuna found in the vessel's holds. The vessel did not have a valid fishing license for Mauritian waters. No fishing log, ship's log, or radio operator log was being maintained onboard. The only document available was a notebook in Chinese.

"During the inspection carried out in accordance to procedures specified in law, the captain of the ship could not account for the origin of the catch. The records were not accurate," underlined one official of the Mauritian Fisheries Department.

The arrest was conducted on one of the first 'joint NCG / Ministry of Fisheries' at sea missions. The vessel, with 12 crew members onboard, was escorted to Port Louis by the CGS Guardian – the case continues.

2. Rock lobster – landed in the SADC region and exported to Europe:

The rock lobster fishery at Tristan da Cunha in the Atlantic Ocean has come under threat from foreign vessels flying flags of convenience, using ports of SADC Member States to land their catches which are then exported, mainly to Europe.

The rock lobster species found at Tristan is only found in one other location — Vema Seamount on the

high seas, where the vessels claimed to have taken their catch. With the cooperation of South African authorities, attempts were made to establish the origin of some of the catches through genetic profiling, to establish whether it was caught on Vema, as claimed, or illegally within Tristan's EEZ. Although there are genetic differences between the lobster populations at Vema and Tristan, results were inconclusive. Studies are ongoing and it is hoped that with larger sample sizes from Vema, in the future authorities will be able to verify and prove the origin of the rock lobster when landed in port.

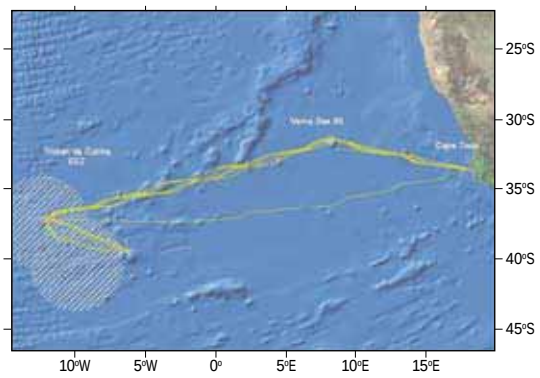
Priority actions

Initiatives such as conservation measures adopted by the South East Atlantic Fisheries Organisation (SEAFO), whereby an IUU Vessel List and catch limits were established for Patagonian toothfish, legal reviews, satellite remote sensing to assess IUU levels, port and at-sea inspection training, and the setting up of information exchange systems by the Indian Ocean Commission (IOC) MCS Pilot Project, all indicate that there is a concerted effort to address IUU fishing in the region.

However, the study highlights marked differences and serious issues regarding the capabilities of some SADC Member States to enforce regulations, either because they simply do not exist in national law or when they do, a lack of even basic equipment such as vehicles and binoculars to do shore patrols and an acute shortage of trained personnel and resources to enforce them.

THE FV ESPADARTE

The Espadarte has had various licenses to longline for finfish within Tristan's EEZ. However, they were suspected to be targeting rock lobster in the area during periods when they were not licensed. A number of other foreign-flagged vessels, landing their catches in Cape Town for export to Europe were also implicated.



The VMS track shows the unlicensed voyages of the Espedarte with incursions into the Tristan EEZ. Although the investigation did not lead to an arrest the fact that their activities came under scrutiny caused the operators to move their fishing operations elsewhere.

IUU fishing is a regional problem and only through increased regional cooperation, the sharing of resources and information and technical assistance, will IUU fishing be eradicated in the region.

The 'Study and analysis of the IUU fishing situation in the SADC region and an estimate of the economic, social and biological impacts' will be available on www.stopillegalfishing.com as soon as it becomes available.

Photos: Martin Purves

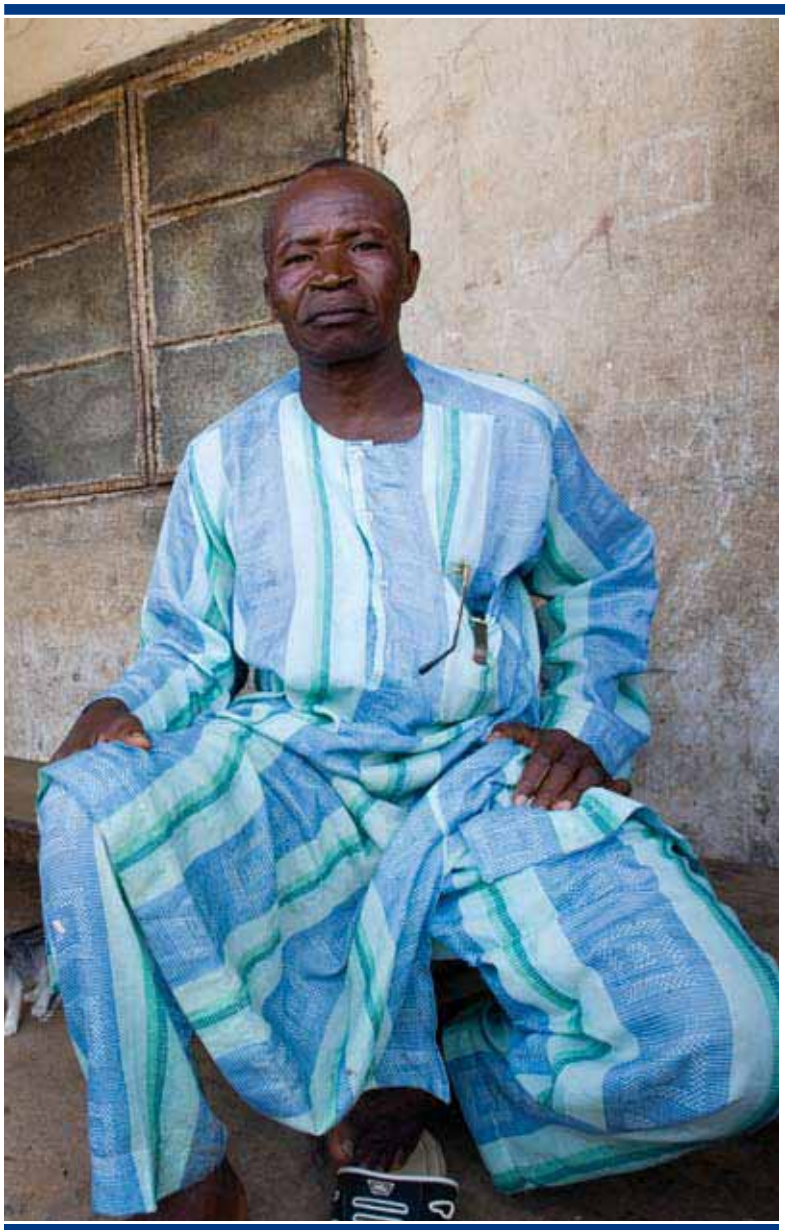
Top left: This picture shows an illegal trans-shipment of toothfish between the refrigerated carrier 'Cape Finisterre' and Black Moon (Red Moon).
Bottom left: The 'Zodiac' is an illegal trans-shipment of catch between the Black Moon (later Ina Maka), a toothfish gillnetter that was arrested in Durban and the Chilbo San.
Main Pic: The Chilbo-San 33, an IUU toothfish longliner, was a regular visitor to Durban harbour, even after it was blacklisted by CCAMLR.

Text and photos by Susan Schulman

Using photographs and interviews, the hidden world underlying the increasingly vicious circle for survival is exposed.

The Impact of Illegal Fishing: Sierra Leone

Five years after the official end of Sierra Leone's long and brutal war, the country continues to struggle. The wealth of its legendary resources continues to elude its impoverished and largely unemployed population. And now, while illegal fishing increasingly undermines the lives and livelihoods of the many wholly dependant on artisanal fishing, its impact on the environment threatens more permanent devastation.



Master Fisherman Tombo at his home in Sierra Leone.

AMADU SEAPORT KAMARA, MASTER FISHERMAN, TOMBO

"I have always been a fisherman. My father was a fisherman too – he was taught by his father, just as my father taught me and I have taught my children. When I was a small boy, and when my children were small it was always the same, then, like now, the wives would trade the fish that we would bring in every day. Big fish they were. Bigger than today. We even used bigger nets. The fish were that much bigger. But now things have changed. Then, we made a good living from fishing. We had a good standard of living: we had a plentiful variety of food, including vegetables and fruit we could easily afford to buy for our families.

"Now, it is a different story. The catch is greatly reduced. We are no longer able to effectively fish – no long able to fish as we used to. For example, we have just used about 25 gallons of petrol and we have caught only about 6 dozens of fish – 6 dozens of fish cannot even buy one gallon of petrol. This implies that it is better to sit home and not fish than to go fishing and waste so much fuel – without it bringing any positive benefit on livelihoods.

"The trawlers are a huge problem. They come right into our fishing areas – they over

fish, they net huge quantities of fish and then throw away the fish they don't want. We see dead fish all the time floating in the water. And when the trawlers come in, they sometimes run over our fishing nets – cut them, take them and there are even some accidents where trawlers have wounded boats and fishermen. This is rampant not just around Tombo but also around the other fishing villages in Bonthe and Conakreedy and the other fishing villages.

"There have been many reports – and the fishermen file complaints with marine resources to try and get compensation. There was actually an incident here where the trawler rolled over the boat and the fishermen were thrown off the boat into the sea and were forced to swim to save their lives. Luckily they managed to survive without any serious injuries but this is not an isolated incident. And because the fish being caught has been depleted, people are using smaller and smaller nets and this is having the effect of diminishing the supply of fish even further as the smaller nets catch the juvenile fish – so the stocks end up not growing, as they should be. It is a very bad situation.

"You can see for yourself if you stand and look at the wharf. Before these problems with the illegal fishing, this would have been a very active spot where you would have seen a lot of fish landings – with people removing catch from their nets, people selling fish to the fishwomen, fishmongers and so on – but as you can see, there is not much activity. As you can see, it is quiet on the wharf. This lack of activity is an indicator of the impact of illegal fishing. There are about 15 000 inhabitants of this village – the minimal number of people at the wharf because people come to the wharf to actually come and buy fish – some rely on buying and selling everyday to earn a living – but as you can see at the water, there are few people relative to the number of inhabitants.

"This is a fishing village – it always has been. Fishing is our lives. The lack of activity shows the very serious effects.

"And the consequences are felt here. One of the big problems is that people are no longer able to pay the school fees. Their entire income was dependent on the fishing and now they can no longer catch fish, they are no longer able to pay the school fees and are having to take their children out of school. Same with medical bills. Now that people cannot afford to pay the doctor, a lot more people – children too are dying as they can't afford to take them to the doctor. A lot more too – especially children are getting ill more frequently as compared to before when they were able to feed their children more balanced diets. So this is the problem. It is very serious."

Plentiful fish stocks are no longer available to Mania fishermen since illegal trawlers entered their area.

BONTHE, SHERBA ISLAND

In the far south of Sierra Leone, Bonthe, a locale where the population is - and has always been - virtually entirely reliant on fishing, has been particularly badly affected by the incursion of illegal fishing and the resulting depletion of fish. The Koreans and Chinese in particular like these waters for the gwangua, considered by them a delicacy. Bonthe too is where the first liberated slaves touched land: Amistad.

TOMMY TUA, 45, MANIA VILLAGE, SHERBA ISLAND, BONTHE

"I have always been a fisherman. My father was a fisherman. His father was a fisherman. My father taught me how to fish, just as his father had taught him, and as we teach our sons. This is an island. It is only natural. Only, when I was a small boy, things were different. We had a good life. Fish were plentiful. We always had enough to eat – and as we had a lot of fish to sell, we could afford to buy what we didn't have, we also had a good variety of food. Unlike today, going hungry – as we do today sometimes – never even occurred to us, we never went hungry.

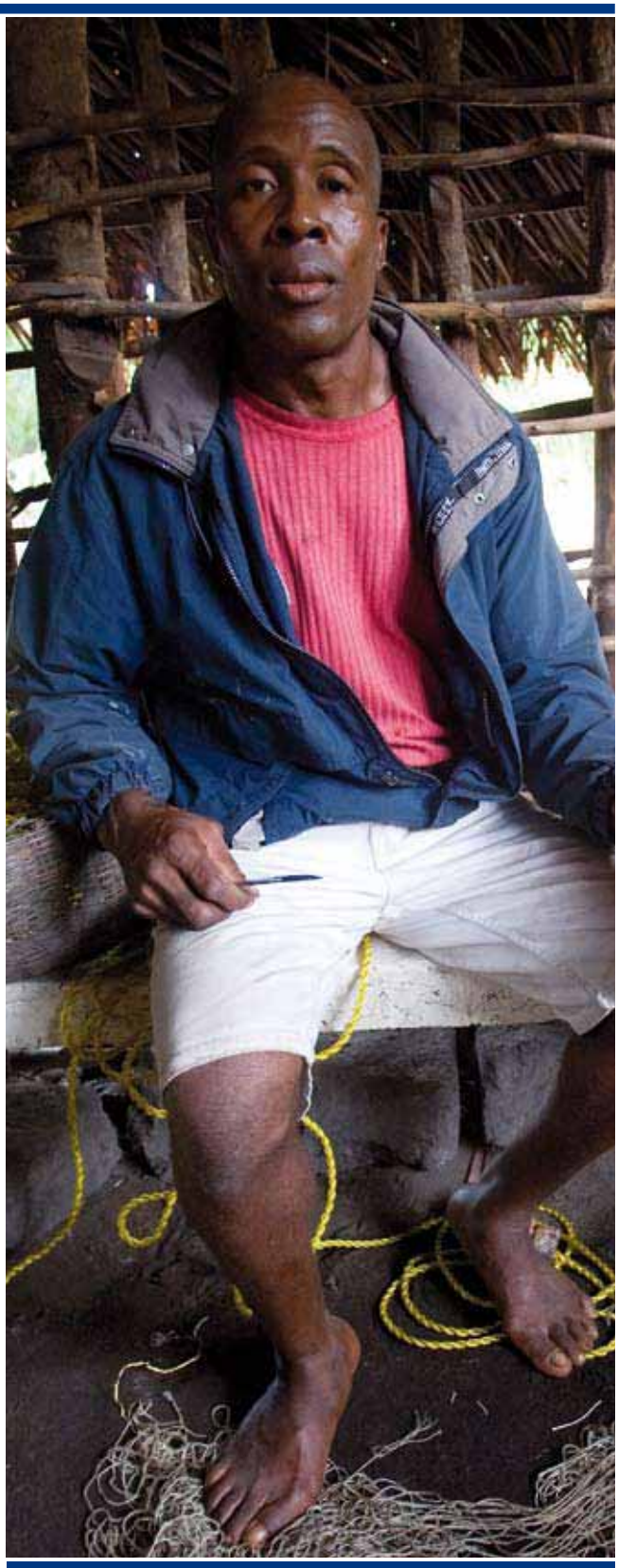
"Back when I was a small boy, we used nets with bigger holes than we do now: the fish were much bigger. We'd catch a lot of big fish back then too: catfish, 'spanish', barracudas and others.

"Things changed at the beginning of the rebel war. All the trawlers came right close to the shore – mostly Korean and Chinese as far as we could tell. That started it – and they have just kept on coming. They now sit right at the entrance to the Sherba estuary – just adjacent to our village – at the entrance of what we call the 'shipping channel' to the Sherba River. They take huge quantities of fish – and stop the fish from coming in. Now the trawler problem is so bad, I won't even dare to go fishing in the sea: these trawlers take our fishing gear – nets, hooks, buoys. And if they don't take them, the nets are getting ripped to shreds. We used to fish 50/50 in the sea and estuary – so not being able to fish in the sea is very serious to our lives.

"And the problem is getting worse and worse because the trawlers are coming closer and closer. They are completely disregarding the law. The surveillance is ineffective.

"The Koreans in particular like to come here as a very common fish here is the gwangua (pseudolithes species) – which is a Korean delicacy.

"I – we – are frightened. When the trawlers see us fishing, they come right in to get us to stop fishing. They run over our nets. Normally, when there is an encounter – if we are lucky, we will be left with half a net and a buoy – but mostly we are not lucky and they take it all. Nets cost 300 000 leone for one length. At least three sets are needed. We only seldomly go there now to fish. The problem has



Tommy Tua, preparing nets for his next fishing trip.

gotten so acute everything is being bought on credit – and then people come after them to pay up – but as the nets have been taken or shredded, there is no way to pay. A lot of people have taken their children out of school – and we are afraid of going to the doctor.

"But then what makes matters even worse is the fact that there just isn't the fish there used to be. The trawlers are over-fishing – and they throw what they don't want overboard – dead – it is dead when they throw it over – so what's happening is that even in the estuary, there just aren't as many fish. And people are having to use smaller and smaller nets, just desperate to catch anything – but this is bad too, as they are catching the juvenile fish and so there are not enough surviving to breed."

Mania Village, Bonthe.

TOMMY GASSIMO, 25, MANIA VILLAGE

"As usual, I had set my nets out in the sea in the evening. The next day, I went to collect them. There were three of us on our boat – you've seen our fishing boats – they are very small, very delicate – just a hollowed out log. Anyway, we stood on the boats, balancing as we do while we pulled up the lengths of net, when I noticed that there was a trawler coming straight for us. It was broad daylight. There is no way he couldn't have seen us. I started waving at it – we all did – frantically signalling – but he just kept coming – broad daylight – a bright sunny day – and he just smashed right into us – breaking our canoe into two, scattering our nets, knocking all of us into the water. We tried hard to swim away and escape getting caught up in their nets – and luckily we did. The trawler never even stopped. It just kept going. We were rescued by the other canoes in the area. We were lucky to come away with our lives but I am left with nothing, not even hope. I can't fish anymore, I have nothing anymore – no boat, no nets, no buoys. Nothing."

Depleted catches are now common for fishermen in Mania.

By Jo Kuper, Greenpeace International

Over-fishing, climate change and pollution have severely degraded the world's oceans. An international network of marine reserves is a key part of the solution to this crisis.

Oceans in Crisis

Oceans cover more than two-thirds of our planet. Every second breath we take comes from the oxygen they produce. These shared treasures are home to 80% of all life on Earth, from microscopic plankton to the largest of the great whales.

Anywhere between half-a-million and ten million species live in the deep-sea, many of them yet to be discovered. Less than 1% of seamounts have been explored.

We do know that the world's highest mountain is not Mount Everest, but the underwater Mauna Kea which measures 32 000 feet from the ocean floor to its peak. The 31 000 mile long Mid-Ocean mountain range is four times longer than the Andes, Rockies and Himalayas combined.

But the world's oceans are in crisis. The United States journal *Science* recently found that more than 40% of our oceans are heavily degraded. Three-quarters of the world's fish stocks are either over-fished or severely depleted. Human-induced threats to oceans include climate change, pollution and over-fishing.

Climate change is melting glaciers, warming the oceans, raising sea levels and threatening to alter ocean currents. It also endangers the future of key planktonic marine food supplies, including krill.

Plastics thrown in the sea can take thousands of years to break down, and are often found entangling birds, fish, and marine mammals, or in their stomachs after being mistaken for food.

Over-fishing is destroying our oceans. For centuries the seas have been considered an inexhaustible resource from which people could take as much as they wanted. Today, thanks to the rise of industrial fishing over the last 50 years, fish stocks are rapidly disappearing. The crisis is exacerbated by high levels of pirate fishing.

In 2006 and 2007, the Greenpeace ship 'The Esperanza' conducted a 15-month long expedition, named 'Defending Our Oceans'. It highlighted the beauty of our oceans and the threats they are facing. From confronting whaling in the Southern Ocean, to tackling pirate fishing in West Africa and the Pacific, to exposing the effects of plastic pollution in the Gulf of Mexico and the Pacific, the tour illustrated the need for a global network of properly enforced no-take marine reserves to cover 40% of the world's oceans.

Marine reserves are essentially national parks at sea. They are areas closed to all extractive uses, such as fishing and mining. A growing body of scientific evidence demonstrates that the establishment of large scale networks of marine reserves is not only urgently needed to protect marine species and their habitats, but could also be crucial to reverse the decline of global fisheries.

Fishing capacity far outweighs nature's capacity to replenish itself

The fishing industry is worth billions of dollars. In 2004, world trade in fish and fish products was US$71 billion – more than three times the world trade in beef for the same year (US$18.3 billion). A primary driving force behind over-fishing and pirate fishing is a growing demand for seafood in the European Union (EU), Asia and other major markets.

According to Charles Clover, author of *The End of the Line*, "The global fishing fleet is estimated to be two and a half times greater than needed to catch what the ocean can sustainably produce."

Yet, governments and Regional Fisheries Management Organisations (RFMOs) have been slow to listen to scientists, or learn the lessons from the spectacular collapse of fisheries such as the Atlantic cod. Despite repeated calls for a global reduction in fishing capacity, the number of large scale fishing vessels (above 100 gross tonnes) has remained stable at around 24 000 – and several nations continue to build (and subsidise) new industrial vessels.

The EU and the International Commission for Conservation of Atlantic Tunas (ICCAT), for

example, have both repeatedly failed to take the advice of their own scientific committees. For seven consecutive years, EU scientists have identified North Sea cod as being so endangered that there should be a zero-quota, i.e. that none should be fished at all. In December 2007, the EU, flying in the face of the science, increased the cod quota by a further 11%.

In 2006, ICCAT's scientists recommended that the quota for Mediterranean bluefin tuna be capped at 15 000 tonnes. ICCAT yet again failed to live up to its name, nearly doubling the quota to 29 500 tonnes.

There simply aren't enough fish to sustain this.

Rich fishing nations invade the waters of poorer countries

Having fished out their own resources, rich fishing nations are turning increasingly to the waters of poorer countries, which are often unable to effectively protect their fishing grounds.

Many industrialised nations negotiate 'sweetheart deals' for their distant water fleets. Some offer debt-ridden countries cash to open up their waters to the ruthlessly efficient operations of industrial fishing fleets.

The UN estimates that the EU is involved in about a dozen of the approximately 100 such agreements known to exist worldwide. Japan is involved in around 40 of these agreements, often misrepresented as 'overseas development aid'.

Modern fishing uses giant ships fitted with state-of-the-art fish-finding equipment that can pinpoint schools of fish quickly and accurately. They are like floating factories, not only catching the fish, but processing, packing and freezing them too. They are equipped with powerful engines to drag enormous fishing gear through the ocean.

The fish don't stand a chance.

Destructive fishing destroys entire ecosystems

Over-fishing affects entire marine ecosystems. Scientists warn that the oceans will suffer profound ecological changes as a result. A recent study suggests that jellyfish may come to dominate some heavily over-fished ecosystems. Destructive practices, such as bottom trawling, can destroy ancient habitats in a matter of minutes.

The wastefulness of modern fisheries is appalling. As much as a quarter of all the sea creatures caught

The global fishing fleet is estimated to be two and a half times greater than needed to catch what the ocean can sustainably produce.

Over-fishing and pirate fishing activities are driven by the growing demand for seafood around the world.

in global fisheries are discarded – thrown back in to the sea dead or dying – because they are not the intended target. These innocent victims of destructive fishing methods are known in the industry as by-catch. They are also known as fish, whales, dolphins, porpoises, seals, albatrosses and turtles, to say nothing of the lesser known creatures killed in this way.

One hundred million sharks and some 300 000 cetaceans (whales, dolphins and porpoises) are discarded every year. Shrimp fisheries are particularly destructive. Shrimp trawlers in the American Gulf of Mexico alone throw away an estimated 480 000 metric tonnes of by-catch each year – more than the total annual reported landings of Senegal.

Discarded catch often includes juvenile fish vital for future stock growth. Purse seining fleets fishing for skipjack tuna, for example, also indiscriminately take young endangered yellowfin tuna. Moreover, while such fish may not command high prices on the market, they could still provide food and income to the peoples of countries such as Tanzania, Somalia, Papua New Guinea and Tuvalu, whose seas are being systematically plundered by distant water fishing fleets.

Pirate fishing aggravates the crisis

Over-fishing and destructive fishing are made worse by illegal fishing, including unreported and unregulated fishing, collectively referred to in fisheries circles as IUU fishing.

The High Seas Task Force estimates that globally, pirate fishing is worth up to US$9 billion. Somalia loses US$300 million a year to the pirates; Guinea loses US$100 million. In the Western and Central Pacific, pirates steal fish with a value of up to four times what the region earns in license fees.

Environmental destruction goes hand in hand with illegal fishing. Because pirates operate, quite literally, off the radar of any enforcement, the fishing techniques they use are destroying ocean life.

In 2001, Greenpeace estimated that there were at least 1 300 industrial scale pirate fishing ships at sea. The poorest countries pay the highest costs, through diminished resources and lost potential catches.

As if illegal fishing weren't bad enough, legal fleets practice their own brand of piracy by paying developing countries pitifully small fees for licenses to fish in their national waters. Pacific island countries, for example, get a mere 5% of the US$3 billion their tuna is worth each year.

Lack of funds makes it impossible for these countries to effectively police their own waters. The island of Kiribati, for instance, has an Exclusive Economic Zone (EEZ) of over 3 million square miles. Yet, they have just one patrol boat – donated by Australia – which frequently breaks down.

Closing off international water areas between EEZs is critical to the fight against pirate fishing and over-fishing. Because these areas are far away from land and hard to monitor, they are all too often easy pickings for illegal fishing.

Pirates often fish in national country waters and then claim that the catch came from international waters. They also use these areas to trans-ship (offload catch) and refuel at sea. This makes it much easier to avoid regulation of how much they have caught, and how much time they have spent at sea.

The Greenpeace ship 'The Esperanza' is currently in the Western and Central Pacific, challenging the over-fishing of tuna species and highlighting the urgent need for Marine Reserves in three key high seas areas – known as the Pacific Commons.

Marine reserves are a key part of the solution

Marine reserves work. In ocean areas that have already been protected, threatened species are returning and there is an overall increase in their variety. Numbers of fish increase and the individual fish live longer, grow larger and develop increased reproductive potential. If they are properly designed to cover crucial breeding and spawning grounds, marine reserves also work for highly migratory species, such as tuna.

Marine reserves are not just about over-fishing, they are increasingly seen as an essential global tool to protect the marine environment from a range of other human activities.

They may well prove essential in the fight to help marine systems adjust to the impacts of climate change, and assuring future food security. In a warming world, maintaining ocean ecosystems in as near a natural state as possible makes them more resilient to change.

It is estimated that it would cost US$12 billion per year to create a network of marine reserves. It may seem like a lot of money, but it is equivalent to the amount spent on perfume in the EU and US each year.

Of course marine reserves are only one part of the fight to save our seas. Greenpeace campaigns for sustainable fishing and an end to destructive fishing. We have developed sound strategies to fight pirate fishing. These include calling for regulations to stop ports 'laundering' illegal fish, for full control of fishing boats by their host governments and for a ban on trans-shipments at sea. We challenge retailers to ensure they only sell fish caught from legal and sustainable sources.

Greenpeace calls for fairer access agreements for developing countries and for international aid and assistance to be given to these nations to protect their fishing grounds.

Creating marine reserves will do a lot to make these goals achievable. It's not too late to save our oceans – to shift the balance of human impacts from damage and harm to protection and conservation.

But we must act quickly. If we want fish tomorrow, we need marine reserves today.

Photo: Susan Schulman

The poorest countries pay the highest costs, through diminished resources and lost potential catches.

By Dr. Andre Standing, Institute of Security Studies, Cape Town

Illegal fishing seems to thrive in countries where open and accountable governance is lacking and where the voices of civil society may be muted as a result.

Improving Governance to Combat Illegal Fishing in Africa

African countries are often depicted as uniquely vulnerable to illegal fishing. This is debatable, for it is a problem that continues to be rampant in many developed countries, not least within the European Union. Nevertheless, there are strong reasons to suspect that illegal fishing could be on the increase in many African countries, and the challenges of combating it are immense, albeit not insurmountable.

Although we have very little reliable data on the scale of illegal fishing, we know that it has become an embedded feature of global fisheries. Put crudely, the world's fishing fleet is too large, fish are becoming scarcer and more expensive, and the cost of commercial fishing is increasing. That many boats break the law to supply consumer markets and turn a profit seems almost inevitable.

The likelihood that African countries are experiencing a growth in illegal fishing no doubt reflects Africa's increasing importance in the global fish trade. Broadly speaking, the demise of fish populations began in the Global North, where the vast majority of high value fish is consumed. This has caused a displacement effect, where the supply of fish to the key markets in Europe and the Far East has progressively been found in the rich and largely under-exploited waters of developing nations. Thus, the tendency in the last few decades has been an intensification of fishing in many African countries by foreign boats, and growing export of fish away from the continent. Daniel Pauly, one of the world's foremost marine biologists, likens this process to a hole burning through a paper; 'as the hole expands, the edge is where the fisheries concentrate until there is nowhere left to go'. Although much of this foreign fishing is regulated through formal license agreements, a large number of boats seem to fish in African waters without licenses, and many who do pay licenses ignore the rules that limit fishing intensity, conserve the marine ecosystem and generate income to host governments – the use of proscribed fishing gear, fishing in protected zones or out of season and misreporting catches are all thought to be common problems. In South Africa, for example, unlicensed fishing vessels, using highly destructive gill nets, caught some 32 000 tonnes of Patagonian toothfish during the late 1990s, whereas total allowable catch limits are now set at 450 tonnes per year.

Yet it is important to realise foreign fishing boats are not the only cause of pressure on fish stocks in African waters. We have also seen largely unregulated growth in small scale or artisanal

Fish are becoming scarcer and more expensive.

A growth in illegal fishing no doubt reflects Africa's increasing importance in the global fish trade.

fishing in many African countries. Unfortunately, as fish become less abundant, there is a trend in some countries for local fishermen to use more destructive and desperate means to sustain catches, such as the use of very fine meshes and even dynamite. Indeed, heightened competition for dwindling resources, by both industrial and artisanal fishing boats, seems to be fostering a race mentality, where every boat attempts to take as many fish as possible. This competition in turn may help boat owners rationalise malpractice. Ever more efficient and harmful fishing by all stakeholders has become both cause and effect of resource depletion.

The challenges facing States to tackle illegal fishing

Responding to these various illegal fishing practices is a daunting challenge. There is a strong degree of international consensus regarding best practice in how to monitor and inspect commercial fishing vessels in order to limit the opportunities for crime. However, the stark reality is that many countries lack the capacity and skills to achieve anywhere near the necessary degree of law enforcement — many countries do not have patrol vessels, or if they do, they cannot afford to pay the fuel costs. Meanwhile, where law enforcement officials are poorly paid, they may easily 'look the other way' in return for a small bribe. Kenyan officials decided to scrap an onboard observer programme in the shrimp trawl industry due to persistent allegations that ship owners were giving observers boxes of prawns. Likewise, it is claimed by local NGOs that some officials tasked with patrolling the sea against illegal fishing in Tanzania sell fuel from their boats to poachers. One can find similar accusations in most countries.

The situation is made all the more difficult due to the trans-national nature of certain illegal fishing activities. Illegally caught fish may be trans-shipped on the high seas, or it is laundered through foreign ports. Several so-called ports of convenience are thought to exist in Africa where illegal fishing boats seem to congregate. It has, therefore, become vital for countries to work together to combat illegal fishing. Unfortunately, trans-national policing and investigations can be laborious and thwarted by poor communications, corruption and stifling bureaucracy. Moreover, there is widespread suspicion that for some countries, not responding to illegal fishing may be convenient, particularly when the culprits are important domestic fishing companies who are supplying processing factories and consumer markets and are financed by politically important financial institutions. Indeed, for a long time criticism has

Trans-national policing and investigations are thwarted by poor communications, corruption and stifling bureaucracy.

been directed at Spanish authorities for not doing enough to inspect and report fish landings in their country originating from West Africa. The same apathy seems to be apparent in many Far Eastern countries where arrests and prosecutions of boats operating in foreign countries appear to be rare, if non-existent, despite widespread knowledge that so many Asian fishing boats are involved in illicit fishing practices abroad.

Given these problems of investigating instances of malpractice, it becomes increasingly important that when criminal activities are detected, penalties and sanctions are of sufficient severity and are given widespread media coverage. This may act as a deterrent and help denounce illegal fishing not only locally, but internationally. A positive example involves the prosecution of Hout Bay Fishing Company in South Africa in 2002, which also involved collaborative investigations between South African and American law enforcement agencies. The company, who was found guilty of massive poaching of rock lobster and hake that was exported to the United States of America, not only received a record fine, but also had its boats confiscated and the directors were imprisoned. Moreover, several local inspectors were incarcerated for accepting bribes.

Unfortunately, such examples appear to be the exception. While there has not been a comprehensive study into the matter, it appears to be the case that few instances of illegal fishing in Africa end up in courts, and when they do, penalties are considered too lenient. This possibly reflects the low importance attached to illegal fishing by judges and the criminal justice system. The result is that illegal fishing may be a relatively 'risk free' activity. The same problem occurs elsewhere and is not simply an African affliction. In 2007, a report by the European Court of Auditors claimed that levels of punishments for boats fishing in EU Member States were so low that the fishing industry probably considered penalties as nothing more than potential running costs.

The importance of transparency and accountability

It may be easy to feel despondent over illegal fishing, given its structural causes as well as the inherent difficulties of monitoring, inspecting and prosecuting wrongdoers. Yet the truth of the matter is that given the necessary political will, far better results are almost certainly achievable.

Encouraging political will among and between African States to combat illegal fishing remains

a critical task of local civil society, and quite possibly there is a role to be played by the more responsible fishing companies. In Tanzania, for example, a group of concerned NGOs, businesses and conservationists have set up the Tanzanian Dynamite Fishing Monitoring Network. This logs instances of dynamite fishing, raises awareness and helps put pressure on the relevant authorities to act.

In Mozambique, a similar group called Eyes On The Horizon has helped raise awareness of various forms of illegal fishing, including the poaching of sharks for their fins by Asian companies. To such examples we can add the work of Stop Illegal Fishing, based in Botswana and the newly formed African Marine Alliance, a regional civil society network designed to raise awareness of unsustainable fishing that was conceptualised in Kenya in 2007. There are probably many more examples of innovative grassroots organisations working to combat unsustainable and illegal fishing in Africa, and such initiatives may expand in the future.

Yet, unfortunately, illegal fishing seems to thrive in countries where open and accountable governance is lacking and where the voices of civil society may be muted as a result. This was the conclusion of a 2005 report by the British consulting firm Marine Resources Assessment Group (MRAG). Their study claimed that rates of illegal fishing seemed to correlate with proxies of good governance, such as access to information, media censorship and levels of perceived corruption. It seems likely that part of the problem relates to conflicts of interests, where politicians and senior officials can have direct involvement in commercial fishing companies, some of which may benefit from illegalities. The authors of the MRAG report argued that increased effort and funding given to monitoring and inspections of fishing may be forlorn without due attention to improving standards of governance. Indeed, the role of corruption in exacerbating unsustainable fishing is slowly gaining international recognition — the International Union for the Conservation of Nature, in collaboration with the World Bank, recently held a conference on this theme in Washington, which was the first of its kind. Such work is undoubtedly inspired by high profile anti-corruption campaigns in other resource sectors, such as the Extractive Industry Transparency Initiative and the Publish What You Pay Campaign, both playing an important role in reforming the mining and oil industries in Africa and Asia.

As experience from these other resource sectors shows, the first steps at improving governance will be for more open and transparent management of commercial fisheries. Publishing information on fishing licenses and contracts, putting in place systems to protect whistleblowers, conducting independent audits of fisheries departments and proactively engaging civil society groups are just some of the activities African governments should be pursuing. In fact, a regional initiative to promote transparency in fisheries, inspired by the Extractive Industries Transparency Initiative, could be effective. It is highly likely that such efforts will be supported by donor agencies, particularly those from Europe and North America for whom 'good governance' has become such a priority for development.

Illegal fishing will always thrive in an opaque environment, where corrupt officials, powerful vested interests and various forms of mismanagement are able to exist beyond the scrutiny of others. Creating an environment less conducive to corruption is certainly not a panacea for African oceans, yet it may be a vital condition to ensure fishing contributes to pro-poor development, improved government revenues and ultimately the conservation of our remarkable, but vulnerable marine ecosystems.

The world's fishing fleet is too large.

Photo: Susan Schulman

COUNTRY PROFILES

CONTENTS

Angola

MARINE FISHERIES

The Angolan coastline is approximately 1 900 kilometres long, with two diverging currents (the Angola and Benguela) that create a strong upwelling system that supports a high primary production of marine resources. However, over-fishing and changes in hydro-climatic conditions have strongly reduced the fisheries potential, which is now estimated to be about 360 000 tonnes per year, comprising 285 000 tonnes of small pelagic species, such as horse mackerel and sardinellas, and 55 000 tonnes of various demersal species, including 7 000 tonnes of deep-water shrimps.

The area from Lobito to the mouth of the Cunene River is by far the most productive of Angola's fishing zones, with an abundance of horse mackerel, sardines, tunas and a range of demersal species.

Angola's northern fishing zone extends from Luanda to the mouth of the Congo River, and the central fishing zone stretches from Luanda to Benguela.

TYPES OF FISHERIES

Angola has a combination of industrialised fishing and artisanal fisheries.

Most fishers are involved in the artisanal sector, which includes more than 4 600 artisanal fishing boats (0-14 metres in length) and 35 000 artisanal fishers, with an estimated 85 000 people involved directly and indirectly in the sector. Only around 20% of artisanal boats are motorised and their activities are therefore limited to the close inshore zone (up to 3 nautical miles).

Artisanal fishers catch demersal species and lower value species such as groupers, snappers, seabreams, croakers and spiny lobster. Semi-industrial and industrial fishers mainly target pelagic species (horse mackerel, sardinella and tuna), shrimp and deep-sea red crab.

HEALTH OF FISHERIES

Over-fishing and changes in hydro-climatic conditions have strongly reduced the potential economic contribution of fisheries to the economy.

FISHERIES ECONOMIC DATA

The Angolan commercial fisheries are worth an estimated US$178 million. Direct fisheries revenues are collected from fishing license fees for vessels, fishing quota fees and violations levy (excess on allowed by-catch, fishing zones, species size, etc.).

One-third of animal protein comes from fish. Most of the fish caught (more than 90%) is sold on the national market, as per capita demand for fish is high and not fully satisfied.

The fishery sector is a major source of employment for many Angolans. In 2000, about 41 000 people were employed directly in the fishery sector, with another 85 000 people in fishing-related activities.

FISHERIES PORTS

Essentially, all semi-industrial and industrial fishing are based at four main ports: Namibe, Benguela, Porto Amboim and Luanda.

Artisanal fishing activities are scattered along the coast, with around 102 regular landing sites

identified. Benguela and Luanda provinces have the greatest concentration of artisanal fishing areas.

MANAGEMENT MEASURES

The Angolan Government started actively regulating its fishing industry during the 1990s. An analysis of the Angolan legal system and comprehensive regulatory framework indicates that almost every aspect of the industry is regulated by law. The courts themselves do not provide much oversight over the industry; instead it is regulated and ruled over by the Ministry of Fisheries.

The Minister of Fisheries, as the competent Minister, can regulate fishery activities such as minimum mesh size, permitted fishing areas and legal gear.

Fishing rights can be inherited, and transferred between individuals subject to authorisation from the competent Minister, with certain limitations. Any fishing quota is transferred with the fishing rights.

In specific circumstances, the Minister can authorise the partial or temporary transfer of a fishing quota. With Ministerial authorisation, a fishing quota may be used as a warranty for credit.

MCS activities are limited, but include fishery control officers and VMS systems. However, with the recent aquisition of new patrol vessels, it is anticipated that MCS activities will increase.

MAJOR IUU ACTIVITIES

The major IUU fishing activities include fishing in closed areas, illegal fishing methods, illegal mesh sizes and fishing without licenses. Known IUU activities also include the encroachment by industrial vessels into artisanal areas and unlicensed foreign vessels operating in Angolan waters.

Country Summary

Principle Fisheries Law	The Aquatic Biological Resources Act of 2004
Value of Fisheries (2001)	US$178.7 million
Contribution of Fisheries to GDP (2006)	3%
Area of EEZ	610 500 km^2
Length of Coastline	1 900 kms
Monitoring, Control and Surveillance Tools	Fishery control officers and VMS
Port State Control Measures in Place	Limited
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	240 000 tonnes
Regional Fisheries Cooperation	BCLME, BENEFIT, GCLME, UNEP, SEAFO, ICCAT, CECAF

Democratic Republic of Congo

MARINE FISHERIES

The Democratic Republic of Congo (DRC) has a very small Atlantic Ocean coastline, and marine production is very modest, accounting only for an estimated 2% of total national fish harvests. In addition, part of the coastline waters are reserved for oil mining. About 6 000 tonnes of small pelagic fishes were caught in DRC waters in 2000 by a fleet of trawlers, mostly flying foreign flags.

TYPES OF FISHERIES

Almost all of the marine production in the DRC is derived from artisanal units using canoes and beach seines. The majority of fishing activity in the DRC occurs in the large inland lakes.

HEALTH OF FISHERIES

Not known, but thought to be over-exploited, particularly by foreign vessels.

FISHERIES ECONOMIC DATA

Most of the marine catch is marketed as chilled or fresh fish in Kinshasa markets. Inland catches are marketed in cured form, either as smoked, sun-dried or salt-dried products, except for markets in the immediate vicinity of landing sites, where fresh products are available.

Industrial processing (freezing) facilities exist at Kalemie on Lake Tanganyika, but their present status is unknown. Waterborne transport plays a critical role in fish distribution and marketing throughout the eastern Rift Valley lakes region and within the Congo River Basin.

Fish is a very popular food item in most areas and demand is exceedingly high. However, the isolated location of many of the water bodies and non-existent or extremely disintegrated infrastructure impose severe limitations on distribution and marketing possibilities.

It is not possible to provide a reliable reading on the present contribution of fisheries to the national economy, due to the lack of recent data. It is clear, however, that both the marine and inland sectors overall have undergone significant decline, attendant upon the highly unstable political and economic circumstances that have prevailed in the country over the past decade.

In the past, the marine fisheries depended on agreements to work off coastal waters of neighbouring States, since the national coastline and territorial waters are of such limited length and area. As far as is known, it has not been possible to maintain these earlier agreements. Moreover, the poor economic climate has led to the physical deterioration of the marine fishing fleet, due to the lack of maintenance, spares, fuel supplies, etc.

FISHERIES PORTS

Due to the lack of an industrialised fleet and the fact that most of the marine fishing is done by canoe or beach seine, there are no dedicated fisheries ports.

MANAGEMENT MEASURES

The DRC fisheries policy emphasises the need to increase fish production to provide animal protein for local populations and thus ensure food security.

The basic legislation on fisheries remains the 1937 Decree on Fishing and Hunting (as amended for its fisheries provisions by a decree of 17 January 1957, a legislative ordinance No. 52/273 of 24 June 1958 and

Photo: Susan Schulman

a decree of 27 June 1960). This decree was applied throughout the territories then administered by Belgium (Rwanda-Burundi and Belgian Congo).

The 1932 Decree on Exclusive Fishing Rights (also applicable in Burundi) enables competent authorities to grant exclusive fishing rights in a designated area to any person. The decree outlines the general terms and conditions governing the agreement to be entered into, and spells out the rights and obligations of each contracting party.

Where the existence of traditional fishing rights has been clearly established in the area to be designated, the grant of exclusive fishing rights may be denied or subject to certain conditions designed to ensure the protection of such rights.

The Ordinance No. 432/Agri. of 26 December 1947 (as amended in 1952 and 1954) provides for the status and powers of fish controllers.

A 1981 regulation prohibits fishing by means of electrical devices, explosives or toxic substances throughout the then Zairian territory and provides for the seizure by the authorities of any such articles and any catch caught by such means.

A 1979 ordinance (as amended by a regulation of 1983) provides for the rate of fishing permits fees and determines the various issuing authorities. It sets out four categories of fishing permits.

Authorisation to fish is required for all types of fishing operations and is subject to the payment of a prescribed fee. Conditions to a fishing permit include the prohibition of discarding any fish or part thereof.

Industrial fishing permits are issued by the Governor of the Province on the advice of a consultative commission. Lastly, industrial fishing is prohibited within a 5 kilometre-wide area measured from the shoreline.

MAJOR IUU ACTIVITIES

Very little data exists on IUU activities taking place in DRC marine waters. However, it is likely that there are foreign vessels fishing without licenses in the DRC EEZ. In addition, the artisanal fishery is unregulated and is not known to report any catches.

Country Summary

Principle Fisheries Law	1937 Decree on Fishing and Hunting (as amended in 1957/1958/1960)
Value of Fisheries (2001)	Not known
Contribution of Fisheries to GDP (2006)	Not known
Area of EEZ	13 690 km^2
Length of Coastline	37 kms
Monitoring, Control and Surveillance Tools	Extremely limited
Port State Control Measures in Place	No
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	221 000 tonnes (includes inland fisheries)
Regional Fisheries Cooperation	GCLME, ICCAT, SEAFO

Madagascar

MARINE FISHERIES

Madagascar has the largest EEZ of all SADC coastal States. On the east coast of the country, fishing is restricted mainly to the coastal lagoons. In the north west, sardines and tuna are caught. Other species caught include lobster, prawn, octopus and shrimp.

TYPES OF FISHERIES

The marine fisheries sector is structured in three main segments: traditional fisheries, artisanal fisheries and industrial fisheries. Traditional fishing is done on foot or in a dugout canoe, while artisanal fishing is characterised by the use of motorised boats using engines not over 50 horsepower. The industrial fishing fleet is made up of boats powered by engines over 50 horsepower.

HEALTH OF FISHERIES

The country's coral reefs have undergone bleaching, possibly caused by an increase in the water temperature. In the southern-most areas of the south west of Madagascar, the reef fisheries are over-exploited and seriously in need of effective management.

The status of the offshore fisheries, including tuna, is not known.

FISHERIES ECONOMIC DATA

The value of the fisheries in Madagascar is estimated to be in the vicinity of US$160 million. Traditional fishermen, numbering 55 000, produce 95% of the fish catch for the local market. They contribute to a significant enrichment of the population's diet.

These fishermen use a variety of non-motorised vessels, including sails or oars. Nonetheless, traditional fishing is mostly an activity practiced on foot by fishermen having a very limited range of action. Fishing techniques are varied, and include the use of nets, canoes, baited boxes, tulles gathered by hand and harpooning, with or without diving.

Fishing offers interesting opportunities for the production of lucrative export resources, and the industrial and artisanal fleet's catch is destined for the export market. In 2001, the production of fish and aquaculture was the main source of foreign currency for the national economy.

According to the FAO, in the year 2000 the fishing industry employed some 83 310 people.

FISHERIES PORTS

The most important ports in Madagascar are Antsiranana, Antsohimbondrona, Mahajanga, Toamasina and Toliara. The artisanal fishery operates along the entire coast.

MANAGEMENT MEASURES

The Ministry of Agriculture and Fisheries (MAEP) is responsible for the management of fishing through the intermediary of the Directorate of Fishing and Fish Resources. Enforcement and surveillance are the responsibility of the Centre for Surveillance of Fisheries (CSP) that operates under the authority of the MAEP.

While the fisheries legislation of Madagascar relies primarily on a criminal enforcement system, it also provides for an administrative penalty scheme designed to improve the enforcement of regulations governing the shrimp industry.

Management of the fisheries is well-established and is based on a system of: licenses - fixed since 1999 and defined in zones; tax on these licenses;

Photo: Gilles Hosch

and a period during which fishing is closed every year. Fishing licenses have been made long lasting, transparent and competitive.

Deep-water fishing has only been authorised since 2001 and is managed by a regime of licenses and tax. Fishing zones are regulated (2 miles on the west coast and 8 miles in the east), smallest grid cell size must be at least 45 mm wide and ship owners have to provide the Fishing Ministry with statistics. The deep-water fishing sector is expanding in Madagascar, with reported off-loading representing 4 157 tonnes in 2002.

In the case of shrimp farming, the Groupement des Aquaculteurs et Pêcheurs de Crevettes de Madagascar (GAPCM) shares the responsibility for management of the fishery by a process of self-management of its members. The GAPCM also has an important consultative role as it participated in the establishment of the Economic Observatory of the shrimp sector, an independent organisation in charge of analysing the performance of the industry. The Economic Observatory monitors the shrimp stock exploitation.

The high levels of by-catch associated with industrial shrimp fishing are being managed by legislation, introduced in 2003, which obliges fishing companies to install a By-catch Reduction Device as well as a Turtle Excluder Device.

Over-exploited trepang and shark stocks, whose productions in tonnage and export value are less important than shrimp, have not been the focus of specific management measures to reduce or counteract their over-exploitation.

Traditional fisheries are regulated like individual fishing, with a ban on the use of toxic substances, explosives and electrical devices to stun the fish as well as any equipment to prolong a dive longer than one using only breath.

The MCS systems have been developed since 2002 thanks to a satellite system and the CSP. All artisanal and industrial fishing vessels are fitted with a global positioning system and must transmit their location to the CSP every hour. CSP qualified observers, paid by the ship owners are working on each boat.

MAJOR IUU ACTIVITIES

Strong MCS of the industrial fisheries lead to high levels of compliance. The traditional fisheries, which are inherently difficult to monitor provide a significant challenge.

Country Summary

Principle Fisheries Law	Fishery Policy of 2000 (No known principle fisheries legislation)
Value of Fisheries (2001)	US$160 million
Contribution of Fisheries to GDP (2006)	8%
Area of EEZ	1 786 360 km^2
Length of Coastline	5 580 kms
Monitoring, Control and Surveillance Tools	Lack of information
Port State Control Measures in Place	Advance notification and port inspections
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	142 000 tonnes
Regional Fisheries Cooperation	WIOMSA, ICCAT, SWIOFC, CCSBT, ASCLME, IOTC

Mauritius

MARINE FISHERIES

Mauritius has an EEZ of 1.2 million square kilometres. The EEZ has a reasonable stock of various fish, including pelagic and demersal species. Exploited fisheries resources include the island based artisanal fisheries, the offshore demersal fishery and the tuna fishery in the western Indian Ocean.

The tuna fishery – Mauritius's most important - exploits the tuna resources in the south west Indian Ocean. Land trans-shipment constitutes an important related activity, and in 2004, a total of 14 255 tonnes of tuna and tuna-like species was landed or trans-shipped at Port Louis by longliners.

A major source of frozen fish for the Mauritian market is the shallow banks located on the Mascarene Plateau, lying about 500 kilometres north of Mauritius. Fishing occurs in depths of 30-60 metres on the St. Brandon groups of islands, Saya de Malha, Nazareth and Albatross banks, which have sandy and coral bottoms. The fishermen operate from dories, which are transported by mother vessels. The main species caught here is the berry fish (Lethrinus mahsena).

Artisanal fisheries target reef species, such as rabbit fish, goatfish, mullets, emperors, surgeonfish and octopus. They use small canoes and boats of less than 10 metres in length, and a range of fishing gear, from harpoon to basket traps, through to various nets.

TYPES OF FISHERIES

Mauritius has a combination of industrial, semi-industrial and artisanal fisheries. The tuna fishery is Mauritius's most industrialised.

HEALTH OF FISHERIES

Some resources are over-fished, and there is a serious concern about preservation of the reef ecosystem. There is competition between fishermen and fishing companies. Potential conflicts persist on the main island due to demographic pressure, sand quarrying, tourism, the textile and sugar industries, and a cane culture, all of which have harmful effects on the lagoon ecosystems. The status of the offshore fisheries, including tuna, is not known.

FISHERIES ECONOMIC DATA

The Mauritian commercial fisheries are worth approximately US$307 million. The fishing industry employs some 11 900 people, both directly and indirectly.

Fish is an important source of protein in the local diet and the per capita consumption of fish stands at 20 kilogrammes (representing one-quarter of animal protein intake). The fisheries sector, like any other sector, has undergone fundamental changes and development in terms of technological advance and innovation.

The domestic market consumes the catches of all the artisanal fisheries and 90% of the banks fisheries, while the industrial fisheries catches are exported to the EU. The fish from the artisanal fishery is consumed fresh, as delivery is rapid from the 61 landing sites to sales points inland.

The catch from the banks fishery is stored in cold stores ashore for distribution to retail outlets in urban areas and villages equipped with frozen storage facilities. Salted fish is produced in St. Brandon for shipment to Mauritius.

FISHERIES PORTS

Fresh fish is landed along the coast of Mauritius at 61 fish landing stations by the artisanal fishermen.

Trans-shipment constitutes a very important related activity in the tuna fishery. In 2004, a total of 14 255 tonnes of tuna and tuna-like species was trans-shipped at Port Louis by longliners; this effected 256 calls. Most of the trans-shipped product consisted of albacore tuna.

MANAGEMENT MEASURES

For the highly migratory tuna, fishing agreements are in place with the EU, the Seychelles (on a reciprocity basis) and Japan for fishing within the Mauritian EEZ.

All foreign vessels need to have a license to fish in Mauritian waters. Local investment and joint ventures are also encouraged in tuna fisheries.

The fishing effort in the traditional sector needs to be substantially reduced to ensure sustainability of the resources. Consequently, fishers are being trained to participate in the offshore fisheries, to enable them to seek employment opportunities on foreign fishing vessels fishing in the EEZ under license in the longline and purse seine fisheries. Some 1 000 fishers may need to be trained to meet the requirements of the industry in the next decade.

A local boat or vessel needs a fishing license to fish within Mauritian waters, or on the continental shelf, in any fishery on the high seas and in the fishing zone of a foreign State. The Fisheries Protection Service and the National Coast Guard enforce the provisions of the Fisheries and Marine Resources Act.

Catch quotas for the banks fisheries have been imposed since 1994 and the number of vessels operating on the smaller banks is limited through a licensing system. The Fisheries Protection Service, with a staff of approximately 264 officers, is responsible for the enforcement of all fisheries laws and regulations.

A VMS is in place on all licensed vessels. The Ministry of Agro-Industries and Fisheries has recently negotiated a protocol for the satellite monitoring of EU vessels fishing in the EEZ.

MAJOR IUU ACTIVITIES

The major IUU activity in Mauritius is potential poaching from unlicensed foreign vessels and illegal trans-shipment of tuna catches at sea in order to hide where the fish has been caught.

Country Summary

Principle Fisheries Law	Fisheries and Marine Resources Act of 1998
Value of Fisheries (2001)	US$307 million
Contribution of Fisheries to GDP (2006)	4.9%
Area of EEZ	1 274 638 km^2
Length of Coastline	3 800 kms
Monitoring, Control and Surveillance Tools	Lack of information but VMS system is in place
Port State Control Measures in Place	Lack of information
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	20 000 tonnes
Regional Fisheries Cooperation	SWIOFC, IOTC, CCAMLR, COMESA, ASCLME

Mozambique

MARINE FISHERIES

The main national fleet fishing area is Sofala bank, where the majority of the industrial and semi-industrial fleet with freezing facilities is concentrated. Sofala bank is the most important area for the shallow-water shrimp fishery. On Boa Paz bank (south of Sofala bank), gamba (a deep-water shrimp) and line fishery resources predominate.

Maputo Bay, in the south of Mozambique, is another fishing area where normally the semi-industrial fleet operates, using ice-freezing techniques.

In general, artisanal fishing extends along the entire coastline, but has special relevance in the provinces of Nampula, Zambézia, Sofala, Inhambane and Maputo.

Total catches are estimated at over 100 000 tonnes, of which 70% are caught by artisanal fishers. The most important commercially exploited stocks (prawns and demersal fish) have been assessed to be highly or fully exploited, while pelagic resources seem to be lightly or not exploited.

Only 40 000 tonnes of small pelagic fishes are captured per year; and tuna (yellow-fin, big-eye and albacore) is under-exploited. On average, 25 000 tonnes of demersal fishes are landed per year (grouper, snapper, emperor and sea bream).

The deep-sea prawn fishery (200-300 metres deep) is developing, with 20 boats fishing 2 500 tonnes of a Total Allowable Catch of 5 000 tonnes. Approximately 220 tonnes of lobster and 2 500 tonnes of crab are caught, with a real potential for developing mangrove crab fishing.

The foreign dominated large pelagics fishery attracts some 150-160 vessels per annum.

TYPES OF FISHERIES

The main fishery sector in Mozambique is industrial and semi-industrial, with over 70% of the active fleet targeting shrimp. The artisanal fishery has been growing as a result of substantial investment in the sector. The recreational/sport fishery is also an important fisheries sector for ecotourism in Mozambique.

HEALTH OF FISHERIES

The shallow coastal waters have been severely over-fished. Only 25% of the fish stocks in the region are under-exploited, and in coastal areas most species are considered fully or over-exploited. According to the FAO, the most recent figures show that the current exploitation of demersal fish, shallow-water shrimp, line fish and deep-water lobster is extreme.

FISHERIES ECONOMIC DATA

Mozambique's fisheries are worth approximately US$30 million. Markets for fish products depend on their commercial value and quality. Shrimp, gamba and lobster, for instance, are preferentially exported; other products tend to be sold locally, although small amounts may also be exported.

The international market for Mozambique's fish products is wide, and includes Africa (Democratic Republic of Congo, Malawi, Republic of South Africa, Zambia and Zimbabwe), Asia (Hong Kong and Japan) and Europe (Italy, Portugal, Spain and the United Kingdom).

The pelagic species caught by the semi-industrial fisheries are consumed domestically, mainly in the coastal areas. The food habits of the inland population, as well as a lack of infrastructure, limit the distribution of fish in inland areas. The artisanal marine and inland catch is consumed fresh, smoked or dried using traditional methods.

Employment generated from fishing activities is generally in fish product distribution and sales. This provides livelihoods for a great number of women operating from landing sites to the markets. There

are approximately 1 550 people employed in the industrial and semi-industrial fisheries and some 50 000 in the artisanal sector.

FISHERIES PORTS

Mozambique's main fishery ports for the industrial fleet include Quelimane, Beira and Maputo. The artisanal fishery lands fish along the entire coast.

MANAGEMENT MEASURES

The government adheres to a system of fishing quotas based on a Total Allowable Catch for each fishery. Under the new LOLE (devolution law), local fishing communities participate in the management of the resource. Thus, the artisanal fishery communities have established fishermen's associations that are involved in co-management in collaboration with government institutions.

The Ministério das Pescas conducts port inspections of licensed fishing vessels, places scientific observers on board licensed vessels, and requires catch and effort reports from vessels. Control of the artisanal fisheries is addressed though co-management initiatives largely monitored by provincial fisheries offices.

Mozambique has in the past two years developed new systems to increase its MCS capacity to monitor and combat IUU fishing. There is now greater liaison and collaboration with RFMOs for historical information as part of the vessel application and licensing system to eliminate the chance of licensing an IUU fishing vessel.

Enhanced port and sea inspection procedures to incorporate the FAO port State control measures and standards have been introduced. The country has begun to operate a patrol vessel in an effort to create a deterrent presence at sea.

Mozambique is developing a regional informal MCS network of Heads of Operations for SADC and SWIOFC countries to liaise more closely to combat IUU fishing, and is collaborating with RFMOs for the development of an integrated data system to facilitate faster and more complete, standardised information between neighbours.

MAJOR IUU ACTIVITIES

The most significant IIU fishing that occurs in Mozambique's waters would include the poaching, and probably misreporting of tuna and shrimp, in particular by foreign fishing fleets. Unregulated trans-shipment is also known to occur regularly.

Country Summary

Principle Fisheries Law	Fisheries Law 1990
Value of Fisheries (2001)	US$30 million (registered catch only)
Contribution of Fisheries to GDP (2006)	2%
Area of EEZ	999 000 km^2
Length of Coastline	2 799 kms
Monitoring, Control and Surveillance Tools	One patrol vessel and fishery control offices
Port State Control Measures in Place	Yes, but limited
NPOA-IUU Fishing	Awaiting final approval
Total Fish Harvested (2005)	± 100 000 tonnes
Regional Fisheries Cooperation	SWIOFC, ICCAT, COMESA, ASCLME, SWIOFP

Namibia

MARINE FISHERIES

Namibia historically has had one of the most productive fishing grounds in the world, principally due to the Benguela Current System, one of the four eastern boundary upwelling systems in the world. The upwelling nature of the Benguela Current System supports a diverse and healthy population of fish.

Namibia's EEZ contains about 20 different commercial species consisting primarily of small pelagic species (pilchard, anchovy, horse mackerel and mackerel) and lobster along the shallower onshore waters on the continental shelf, as well as large pelagic species that include adult mackerel, demersal hake and other deep-sea species (monk-fish, sole and crab) in the waters further offshore.

TYPES OF FISHERIES

Fisheries in Namibia are almost entirely industrial, however, some recreational fishing does occur. No artisanal fishing occurs in Namibia.

HEALTH OF FISHERIES

Namibia's two most economically important commercial fisheries face serious challenges. The country's small pelagic fishery was given a 0 Total Allowable Catch in 2002; and Total Allowable Catches in subsequent years have been restricted to between 20 000 to 25 000 metric tons.

The hake Total Allowable Catch has been continually and systematically reduced. In October 2007, a month-long closed season was introduced for the first time to protect the juvenile hake and thereby reduce pressure on the hake stocks. However, other stocks, such as lobsters and horse mackerel, remain relatively stable.

FISHERIES ECONOMIC DATA

Namibia's commercial fishing industry is worth an estimated US$389 million. Hake, horse mackerel, crab, rock lobster, tuna, sole and monk, king clip, orange roughy, oysters, tuna, pilchards, seaweed, anchovy, red-eye, snoek, panga, John dory, angelfish, shark, swordfish, kob, barbel, squid, cardinal fish, Cape guarnard, grenadier, jacopever, chub mackerel, octopus, mullet and alfonsino comprise the fish and fish products that are exported to international markets.

Resources abundantly available for export are horse mackerel and hake. In terms of volume, Namibian horse mackerel is the dominant species in Namibian waters. Hake products are of good quality and are increasingly in demand in the EU and other international markets for catering and retail.

The country exports more than 90% of its fisheries products primarily to markets in the EU, the United States of America, the Far East and Africa.

With about 14 000 people directly employed by the commercial fishing industry, the ratio of direct employment to total catch is relatively low, when compared to other SADC countries. This may be due to the high rate of industrialisation in the industry in Namibia.

FISHERIES PORTS

The only landing sites are Walvis Bay and Lüderitz. Most of the processing plants and cold storage are located in the town of Walvis Bay.

MANAGEMENT MEASURES

Total permissible catches are set for all major species. Fishing licenses are issued to gain control over flag State vessels, and are a requirement to fish commercially within Namibia's EEZ. Specific licenses must also be obtained in order to use

Namibian flag vessels to harvest any marine resources in any waters outside the Namibian EEZ.

Namibia's MCS system has developed to a very effective system, according to experts in the international community. The MCS comprises an integrated programme of inspection and patrol at sea, on land and in the air, to ensure continuing compliance with Namibia's fisheries laws.

Every vessel leaving the port of Walvis Bay and Lüderitz for commercial fishing is required by law to have an onboard observer. This regulation ensures both compliance and the vessel's capacity to collect scientific data. A Fisheries Observer Agency was established under the Marine Resources Act (MRA, 2000) and ensures increased capacity towards the sustainable utilisation of marine resources within and outside Namibian waters.

Systematic sea patrols are carried out, largely directed at ensuring compliance with fishing regulations by licensed vessels through regular at-sea inspection. Air patrols detect and deter unlicensed fishing vessels and monitor the movement and operation of the licensed fleets. The shore patrols ensure compliance by both recreational and commercial fishers with conservation measures for the inshore resource. The Ministry of Fisheries and Marine Resources has two patrol vessels and two aircraft.

Onshore inspectors carry out the comprehensive monitoring of all landings at the two commercial fishing ports of Walvis Bay and Lüderitz. This ensures that quota limits and fee payments are observed. All vessels are required to supply EEZ exit and entry reports, as well as daily catches and effort reports via radio and vessel log sheets.

A more recent development has been the implementation of a satellite based VMS. It assists fisheries management by improving the real-time monitoring of vessel movements and activities, and by deterring IUU fishing activities.

Namibia's national VMS will also enable the country to comply with the requirements of international fisheries management organisations to which Namibia belongs.

MAJOR IUU ACTIVITIES

Major IUU fishing problems pertain to the violation of coastal exclusion zones and piracy by licensed and unlicensed vessels. The declaration of true catches and discards might also be an important IUU issue, while licensed operators – both national and foreign – violate other regulatory provisions.

Threats pertain to unlicensed pirate vessels, engaged in illegal border hopping operations, sailing in from neighbouring EEZs or the high seas. Other common IUU fishing threats relate to mainstream fisheries infractions. On the whole, Namibia has reduced IUU threats and incidences to a minimum.

Country Summary

Principle Fisheries Law	Marine Resources Act (No 27 of 2000)
Value of Fisheries (2001)	US$372.2 million
Contribution of Fisheries to GDP (2006)	5.9%
Area of EEZ	581 641 km^2
Length of Coastline	1 800 kms
Monitoring, Control and Surveillance Tools	Patrol vessels, aerial surveillance crafts, fisheries inspectors and observers, and VMS
Port State Control Measures in Place	Yes
NPOA-IUU Fishing	Deposited with FAO
Total Fish Harvested (2005)	552 164 tonnes
Regional Fisheries Cooperation	BCLME, BENEFIT, SEAFO, ICCAT, CCAMLR, UNEP

South Africa

MARINE FISHERIES

The total catch in South Africa varies according to the availability of small pelagic and mid-water resources. The main pelagic species are anchovy, pilchard, round herring and horse mackerel, which vary considerably from year to year.

Hake is the main demersal species harvested; other significant species are snoek, monk, squid, ribbonfish, chub mackerel and rock lobster. One of the serious problems within the sector is the poor distinction between professional and part-time (or leisure) sectors. Both are very well equipped with skiboats, fish-finders and navigation equipment. Other species, such as abalone and west coast rock lobster, are actively poached and their current exploitation is not sustainable.

Deep-water and Antarctic fishes (Patagonian toothfish and orange roughy) are also currently exploited. Tuna is caught by the national fleet. Foreign longliners (Japan and Taiwan) are also actively fishing within South African waters.

There are several small coastal net fisheries, wild oyster exploitation and a small trawl fishery on the KwaZulu-Natal coast.

TYPES OF FISHERIES

The west coast of South Africa consists mostly of industrial fisheries, while the east coast is less industrialised, but has a fair amount of artisanal and subsistence fishers. Recreational fishers are active along the entire national coastal areas.

HEALTH OF FISHERIES

A number of species are currently over-fished, especially those targeted by the line fishery (kob, basses, steenbras, etc.) and stringent measures must be taken to reduce the fishing effort to acceptable levels in this rapidly expanding sector. The sardine and hake stocks seem to be in decline.

The majority of South African fisheries are fully exploited, with little room for further development.

FISHERIES ECONOMIC DATA

South African fisheries are worth approximately US$520 million per year. The fishery sector employs some 43 000 individuals, both directly and indirectly.

The per capita consumption of fish products in South Africa is relatively low, compared with that of other fishing nations. The small pelagic fishery production, which is the largest by volume, forms the bulk of the fish production consumed locally. Pilchard in cans is a popular protein source and fish meal production is utilised in the agricultural sector (and exported in good years).

The South African fishery sector is also characterised, however, by its substantial level of international trade, resulting in a significant net contribution to foreign exchange (primarily hake exports to Spain). South African exports of fish products outweigh imports, contributing significantly to the international whitefish trade. Fresh lobster exports to the Far East are also a valuable export commodity.

FISHERIES PORTS

The most important fisheries ports in South Africa are Saldanha, Cape Town, Mossel Bay, Port Elizabeth and Durban.

MANAGEMENT MEASURES

Fisheries in South Africa are regulated by the Marine Living Resources Act (MLRA) 18 of 1998 which aims to "provide for the conservation of the marine ecosystem, the long-term sustainable utilisation of marine living resources and the orderly access to exploitation..." The MLRA is the foundational piece of fisheries legislation in South Africa. It is in terms of this legislation that fishing rights or quotas are allocated.

Under this act, only South African persons may be permitted to hold a commercial fishing right granted under Section 18. Foreign persons may be allocated a foreign commercial fishing permit or a recreational fishing permit. However, since January 2003, no foreign commercial fishing has been allowed in South African waters.

Although foreigners may not hold fishing rights under South African fisheries policy, foreign flagged fishing vessels are permitted in certain fisheries, provided they are deployed on behalf of a South African right-holder.

South Africa has four dedicated patrol vessels which monitor fisheries and inspect vessels. There is also a fixed wing air patrol operating out of Cape Town. Fishery control officers are deployed at harbours to inspect catches and monitor unloading of catches.

MAJOR IUU ACTIVITIES

Some of South Africa's high profile, high value fisheries have been besieged by IUU fishing. These include the recently closed abalone fishery and hake fishery. As a member of CCAMLR, South Africa has successfully reduced the large scale plunder of its Patagonian toothfish resources.

Other IUU activities include the high grading of catches and unreported catches.

Country Summary

Principle Fisheries Law	Marine Living Resources Act 18 of 1998
Value of Fisheries (2001)	US$520 million
Contribution of Fisheries to GDP (2006)	Less than 1%
Area of EEZ	1 387 870 km^2
Length of Coastline	4 300 kms
Monitoring, Control and Surveillance Tools	Patrol vessels, VMS and fishery control officers
Port State Control Measures in Place	Yes, but limited
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	550 000 tonnes
Regional Fisheries Cooperation	BCLME, BENEFIT, CCAMLR, CCSBT, ICCAT, IOTC, SEAFO, SWIOFC, ASCLME, SWIOFP

Tanzania

MARINE FISHERIES

The marine coast of Tanzania has a narrow, sharply falling shelf. Marine fishing activity is generally concentrated inshore and around the islands of Zanzibar, Pemba and Mafia. Small scale fishers work from scores of local beaches, but most fishing operations for both the artisanal and industrial marine coastal fishery are based out of Dar-es-Salaam on the central coast, the Lindi-Mtwara area on the south coast, the Tanga-Pangani area on the north coast, and Zanzibar Town.

The marine catch is composed of a great diversity of species, including snapper, kingfish, shark, rays, shrimp, lobster, sardine and sea cucumber. A small fleet of wood and steel hulled trawlers are active in Tanzania, targeting shrimp.

Tuna and other related highly migratory species are fished on a seasonal basis by foreign fleets, as is the case throughout the western Indian Ocean.

TYPES OF FISHERIES

Fishing craft are primarily outrigger canoes or small *dhow*-type planked boats, and are mostly propelled by sail. A small fleet of wood and steel hulled trawlers and purse seiners is also active.

HEALTH OF FISHERIES

Heavy fishing, coral mining and shell collection activities, coupled with pollution over the past several decades, have all contributed to the degradation of ecosystem health and productivity along the inshore zone, which is an important area for the artisanal fishers. There are also reports of severe reef damage along the coast, due to dynamite fishing.

By FAO assessments, the shrimp fishery, which is the leading earner in the marine sector, is believed to be in a state of full exploitation, with any further expansion therefore inadvisable.

FISHERIES ECONOMIC DATA

Fisheries in Tanzania are worth between approximately US$10-14 million. Various estimates place the number of full-time coastal marine fishers in the 10 000 to 15 000 range, operating with some 4 000 to 5 000 small craft.

Fish is an immensely popular food in Tanzania, and most of the national catch is absorbed by the domestic market. Fishing activities are a vital part of community life in over half of the country's regions.

The sector accounts for an estimated 30% of Tanzania's supply of animal protein. For the lowest-income segments of the population, fish is generally the major animal protein consumed, because of the price of some of the cheaper fish products, and in particular of dried dagaa, in relation to meat and poultry. In areas lying along major lakes and rivers, fish assumes an even more predominant food security role for local inhabitants.

Trawling for shrimps and purse seining for sardines expanded rapidly in the late 1980s and early 1990s, as moves towards structural adjustment and economic liberalisation came into effect. It is estimated that by the mid-1990s, the shrimp fishery (based primarily around the Rufiji Delta, some 200 kilometres south of Dar-es-Salaam, and in areas around Bagamoyo, about 100 kilometres to the north) was producing in the range of 1 000 to 1 300 tonnes annually.

FISHERIES PORTS

Small scale fishers work from scores of local beaches, but most fishing operations for both the artisanal and industrial marine coastal fishery are based out of Dar-es-Salaam on the central coast, the Lindi-Mtwara area on the south coast, the Tanga-Pangani area on the north coast, and Zanzibar.

MANAGEMENT MEASURES

Due to the importance of the inland sector, the majority of the efforts of the Fisheries Division, are focused on inland sector activities. Furthermore, one particular aspect of the fisheries management is the split jurisdiction between the Mainland and Zanzibar (Unguja and Pemba). In Zanzibar, the Ministry of Agriculture, Livestock and Natural Resources covers the fisheries sector.

Management is oriented towards the reduction of fishing efforts both in industrial and artisanal sectors. Environmentally unfriendly fishing methods (e.g. beach seines and dynamite) are prohibited, but law enforcement is difficult to achieve. Protected areas have been established, as have marine reserves and private parks.

Processing facilities for marine products are relatively limited; there are a few onshore processing plants in Dar-es-Salaam (shrimp and octopus), and a processing barge is anchored close to Mafia Island. The last company active in Zanzibar has recently collapsed.

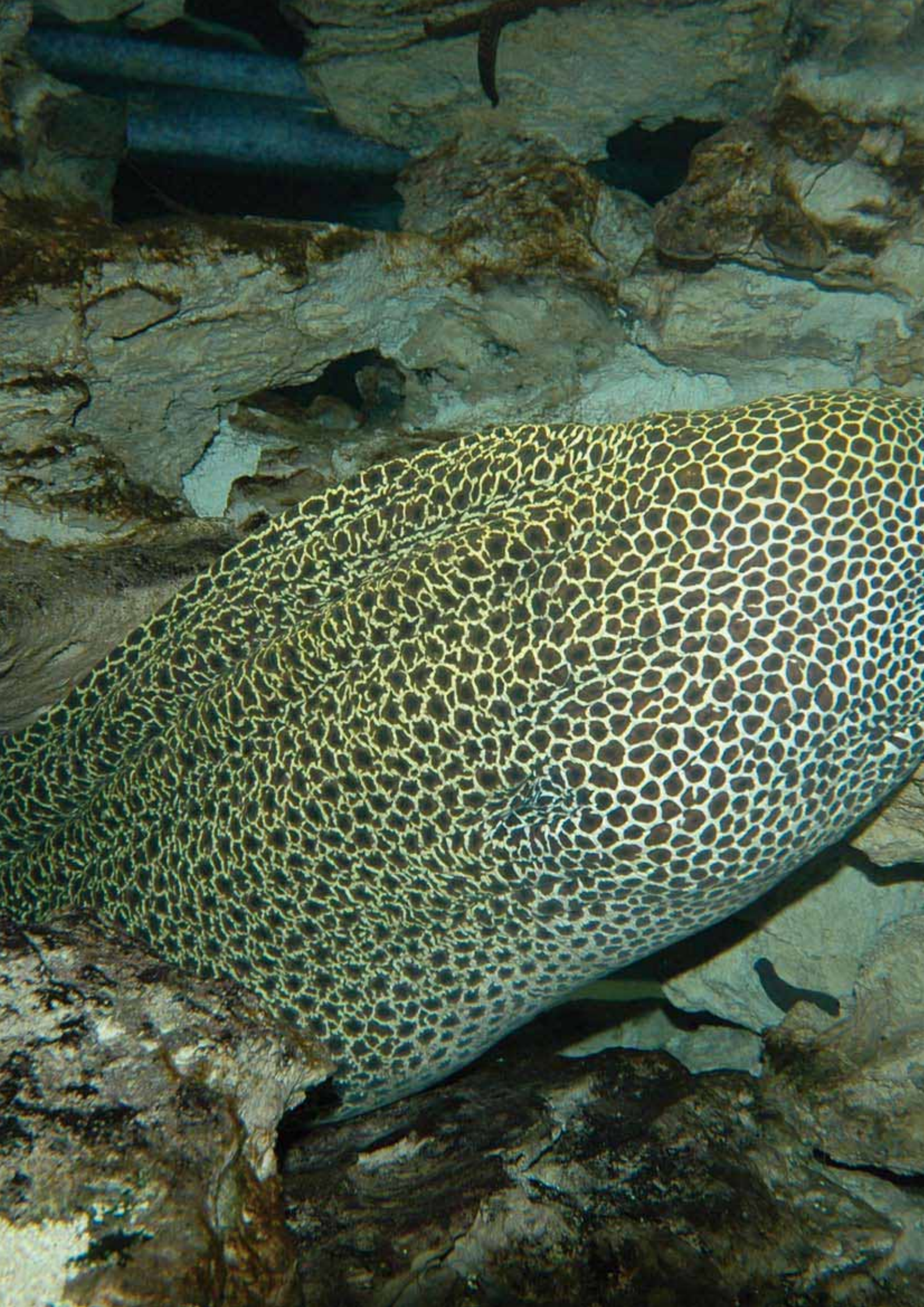
Professional organisations are quite strong, including the Trawler Operators Association and the Fish Processing Association. Registration with an association is mandatory for the issuance of a fishing license.

MAJOR IUU ACTIVITIES

IUU fishing is a problem in both Tanzania's marine and inland fisheries. On the marine side, dynamite fishing and coral mining create problems in the small scale fisheries, while documented incursions of non-licensed Asian and European tuna fleets into the Tanzanian EEZ have been reported in the past. In the inland fisheries, the use of illegal gear and unlicensed 'border hopping' are perennial problems.

Country Summary

Principle Fisheries Law	Fisheries Act 1970
Value of Fisheries (2001)	± US$10-14 million
Contribution of Fisheries to GDP (2006)	2.9%
Area of EEZ	526 880 km^2
Length of Coastline	1 645 kms (includes islands)
Monitoring, Control and Surveillance Tools	Fishery control officers
Port State Control Measures in Place	Yes, but limited
NPOA-IUU Fishing	Not yet finalised
Total Fish Harvested (2005)	± 300 000 tonnes, including approximately 50 000 tonnes of marine fish
Regional Fisheries Cooperation	ASCLME, UNDP, IOTC, SWIOFC



MINISTERIAL INTERVIEWS

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Madagascar

Stop Illegal Fishing Programme Interview with the Hon. Minister Dr. Marius Ratolojanahary, Minister of Agriculture, Farming and Fishing.

Madagascar was once a haven for pirates. Minister Ratolojanahary explains to Gilles Hosch, of the Stop Illegal Fishing Programme, how Madagascar now excels in the area of monitoring, control and surveillance.

Madagascar is a country with a huge coast, over 5 000 kilometres long, and an Exclusive Economic Zone of nearly 1.8 million square kilometres. "Moreover, Madagascar is an island, so it means that fishing holds a very important place in the economy of Madagascar." Fishing is also a vital source of foreign currency; in 2005 fisheries contributed 8% to the country's GDP.

Traditional fishing is a way of life for an estimated 100 000 people who live and work in the 1 250 coastal communities in Madagascar. This coastal population is growing in number as in the south of the island there is virtually no agriculture and fishing is the means by which people survive. Minister Ratolojanahary relates that "pirogues are still largely used by families or groups of families. The pirogues provide the means for those families to secure a source of income, at times the only source of income in some coastal areas of Madagascar. Among the fishermen in the south, for example, there is an ethnic group that we call the *vhezus* who specialise in fishing. In Madagascar fishing holds an important place socially and as far as food security is concerned."

The major commercial fishery sector of Madagascar is that of the prawn fisheries on the west coast. Prawns accounted for a total production of 11 200 tonnes in 2004, with prawn exports accounting for over 78% of the export value of fish and fish products.

The tuna fisheries in Madagascar centre around the northern port of Antsiranana.

The last 20 years has seen the development of Madagascar's industrial fisheries. Madagascar "nowadays has various fisheries access agreements, either with the EU, or with other countries, or even with private companies. These are for the tuna fisheries and we are also developing other fishing industries."

The EU Fisheries Partnership Agreement covers a six-year period from 2007 to the end of 2012. It came at a cost of Euro1.2 million to the EU and allows vessels, mainly from Spain, Portugal, Italy and France to fish in the Malagasy waters, and is part of the network of tuna fisheries agreements in the Indian Ocean.

The tuna fisheries of Madagascar are dominated by foreign fishing vessels, namely, European purse seiners – some of which use Antsiranana as a base for unloading, with most of their catch going to the Pêche et Froid Océan Indien (PFOI) processing plant situated near the port with some trans-shipment, Asian longliners and some semi-industrial fleets based in Réunion.

Concerns have been raised regarding the relationship between the amount paid for fishing licenses and access agreements and the operational profits that can in principle be made by purse seiner and longliner vessels fishing in Madagascan waters. It appears that, given the number of tuna fishing vessels operating in Madagascan waters, much of the value added – storage, port dues and vessel expenditure – is captured by other ports in the region and by onboard or onshore processing of high quality tuna by Asian vessels for Asian markets.

On illegal fishing

Minister Ratolojanahary points out that "illegal fishing is a global phenomenon that affects first and foremost developing countries. In Madagascar, we also face this problem of illegal fishing; it is really harmful for our national economy. There is an important loss of resources, and there is also an important loss of income, as well as a loss regarding tax from fisheries because of this illegal fishing."

Madagascar not only faces problems in its distant-water fishery areas which are difficult to patrol, but also in its traditional fisheries as the excessive levels of fishing effort associated with the free and open access nature of small scale fisheries are causing serious resource and economic problems. The intense competition for the resources among

small scale fishers and between large and small scale fishers are resulting in declining catch per unit effort, diminishing economic returns from fishing operations, and the over-exploitation of the resources. The need for many fishers to catch fish to earn a living and to survive is compelling many small scale fishers to resort to illegal fishing practices. It is reported that these illegal fishing practices are increasing at an alarming rate, with serious negative impacts on the resources and the ecosystems on which they depend.

National Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated (NPOA-IUU) fishing

Madagascar has been heavily involved in fisheries monitoring, control and surveillance from the late 1990s onwards. In fact, Madagascar is a leading country in the region in this field. This year, Madagascar decided to follow the call of the Food and Agriculture Organisation (FAO), and to develop its own National Plan of Action to fight Illegal, Unreported and Unregulated fishing.

Minister Ratolojanahary makes it clear that "by developing our NPOA-IUU now, it shows the world that in Madagascar we give priority to protecting our fisheries resources, and that we would like to improve our protection of these resources that are so very important to the national economy, and also for the Madagascan people of today and the coming generations. We hope that this National Plan of Action will have positive effects and will improve many aspects of the fisheries protection service in Madagascar."

In 2007, Madagascar entered into the process of updating and harmonising its legal framework, together with the nearby countries in the Indian Ocean. Minister Ratolojanahary identifies the need for close regional cooperation. "I think that when one's country is an island, and that when the means available are insufficient, one should coordinate with the nearby countries and thus, maximise the benefits that are available to you."

Minister Ratolojanahary is also keen to see the harmonisation of the legal frameworks. "Let's take the example of offences and fines. Fines should be on the same level in different countries. It is problematic when one country applies a fine that is less than the others, and which has no effect on offences committed by ship owners. Harmonisation in this field is very important. We think that it will improve and reinforce the fight against IUU fishing in the region."

Monitoring, control and surveillance (MCS) and regional cooperation

Minister Ratolojanahary explains that "in the 1990s Madagascar brought the Fisheries Protection Office into operation, together with other MCS facilities, with the help of Madagascar's technical and financial partners, most particularly the EU and the Agence Française pour le Développement (AFD).

The Indian Ocean Commission (IOC), of which Madagascar is a member, is home to two MCS projects. One of these projects works in the field of MCS capacity building in the region among the member countries of the IOC, while the other project represents a centre of coordination of the countries in the region for aerial active surveillance and marine surveillance."

Minister Ratolojanahary believes that "the regional approach is indeed a means of applying pressure to fight IUU fishing in the Indian Ocean region. Everyone is aware of the seriousness of IUU fishing in the Indian Ocean; moreover, the member countries of the IOC are also aware that individually the countries don't have sufficient means to fight against this IUU fishing. Thus, we should work together using the means available. All the participants have been able to profit from this important regional coordination.

With regard to the tuna fishery, tuna is a migratory species, so we cannot say that we own it, or that we don't own it. Today, the tuna could be ours because it swims through our waters, but tomorrow morning it might be our neighbours. Therefore, only a regional coordination, a regional fisheries protection service could really fight against IUU fishing. I would like to also take this opportunity to state that this regional coordination could also have an impact on the fight against pirates.

We need to continue to share information on illegal fishing. It is very important, in my opinion, that we do this within the framework of the fight against IUU fishing."

When discussing the best way for the international community to support Southern Africa and the Indian Ocean in their efforts to fight against IUU fishing in the future, Minister Ratolojanahary shares his opinion that "it is very important that IUU fishing should be recognised as a major constraint for the region. It is also vital that member countries of SADC should be aware of the seriousness of the loss of these resources to the region. Making the international community aware of these problems should be taken very seriously."

Mauritius

Stop Illegal Fishing Programme Interview with the Hon. Minister Dr. Arvin Boolell, Minister of Agro-Industry and Fisheries.

Mauritius has recently undergone a transformation from an artisanal fishing centre to managing a sizeable offshore fishery, with Port Louis becoming a major fish processing centre. Minister Boolell explains to Gilles Hosch, of the Stop Illegal Fishing Programme, what the plans are for Mauritius's future as a 'Regional Seafood Hub' and the priority that is being given to tackling illegal fishing.

Minister Boolell explains that "fishing is a very important sector of the Mauritian economy. It is an emerging sector that is becoming an economic colossus, and it is also a sector where there is a lot of investment flowing into the country. It employs directly and indirectly nearly 12 000 people."

The offshore fishery of Mauritius is based on tuna and the tuna-like species that are widely distributed in the Exclusive Economic Zone (EEZ) of Mauritius and the adjoining waters of the Indian Ocean Tuna Commission (IOTC). Beside being a considerable source of food for the islanders, the value of the fishery lies in two main areas – firstly, the licensing of foreign vessels to fish in the EEZ and secondly, in the use of Port Louis, as a centre for offshore vessels and the associated onshore processing and service industry.

In 2005, 215 foreign fishing vessels were issued licenses for longline, purse seine or hand line fishing methods within the Mauritian EEZ. This is managed through umbrella fishery agreements (92 vessels in 2005) such as those that Mauritius has with the EU, Japan and the Seychelles or through private agreements with fishing vessels and companies of other nationalities (123 in 2005).

The majority of licenses are issued for longline vessels, generally of Asian flag, while the second most prolific category is the purse seine vessels, usually of European flag. License fees in 2005 from EU vessels totalled nearly Euro1 million. At present Mauritian vessels catch very little tuna with only two Mauritian longliners licensed in the fishery in 2005, though Minister Boolell reveals that Mauritius would like to see the expansion of their domestic fleet.

Although the production of the locally owned and operated tuna fisheries in Mauritius is currently negligible, the entire sector produces a positive balance of trade, principally derived from the buying of raw product to process onshore into canned tuna for export. This trade balance represents about 1% of the contribution to the total GDP. However, a recent economic study of the benefits accruing to Mauritius from foreign fishing indicates that earnings from services and, to a lesser extent, licenses, amount to Euro200-250 million annually, i.e. over one-third of the earnings from sugarcane cultivation. This suggests that there is significant potential for the offshore fisheries to become a major contributor to the economy.

The seafood hub and market development

In late 2003, the Government of Mauritius gave its full commitment to transform Mauritius into a major seafood hub. The seafood hub can be defined as "an efficient and attractive environment for the supply of value added processes and services related to the sourcing and marketing of seafood products". The objective is to create a hub for trading, warehousing, processing, distribution and re-export of fresh, chilled, frozen or value added seafood products.

In 2005, foreign longliners trans-shipped 64 235 tonnes of tuna in Port Louis and a total of 707 calls to port were made by foreign fishing vessels for trans-shipment and/or bunkering purposes in the same year. These numbers are increasing as the port expands and processing capacity increases.

The seafood hub is being promoted by both the public and private sectors. Interest in investment in the tuna sector has been expressed by companies from the United Kingdom, Malaysia, Spain and the United States of America. There has already been considerable investment by the private sector in the development of tuna processing, through the creation of new products, storage and processing facilities.

Minister Boolell states that "there are many countries that are willing to take advantage of all the facilities that we offer because of our on-time

delivery, our human resources, and the costs of production, which are certainly affordable. Those who come here to take advantage of our services feel that we are delivering, and we are delivering on target."

Part of the seafood hub concept is a dedicated government one-stop-shop service within the Mauritius Port Authority. The service aims to facilitate seamless import and export clearances for business operators of the seafood industry. In order to perform this service the one-stop-shop expects to run around the clock and comprises of government departments from the Ministry of Agro-Industry and Fisheries, Veterinary Services of the Ministry of Health and Quality of Life, Customs and Excise Department and the Passport and Immigration Office.

Illegal fishing

The recent expansion of fishery interest into the offshore fishery of the EEZ brings with it international, regional, ecological and social obligations. Illegal fishing has the potential to seriously reduce the potential economic and social benefit that a well managed fishery sector could accrue to the islands.

Minister Boolell is clear that Mauritius recognises the importance of looking after its fish stocks. "We need critical mass and for this critical mass to be available we have to make sure that licenses are properly issued, that there are responsible fishing activities in the region and that we interact very forcefully with countries in the region to ensure that we exchange information, that we analyse information, and that we are seen to be aggressive in the war on IUU."

Mauritius has an EEZ that is almost 2 million square kilometres. "On our own it would be difficult to patrol such a huge zone and I don't see many other countries in the region or elsewhere which can either afford or have the capacity to do so. You have no choice but to pool your resources together and we have also had to enlist the support of our reliable partner, the EU, which is funding quite a few valuable projects in the region. At the same time we have to make sure that our fishing vessels are properly equipped and we have a proper monitoring, control and surveillance system that has been put in place."

Illegal trans-shipment has been a problem for Mauritius in the past. Minister Boolell tells us that "it's an issue that we are addressing in a very forceful manner. In this respect several vessels have been denied trans-shipments in Mauritius. We are leaving no stone unturned. If ever there is a country in the region that is in the forefront to wage war on IUU, I must say, in all humility, then Mauritius has been in the vanguard. But it is not only words, these words are being translated into actions, and those actions speak louder than the words and the results are tangible."

International and regional cooperation

Mauritius participates in many international or bilateral fora and meetings that relate in one way or another to the offshore fishery. Some are specific such as the IOTC, and deal directly with tuna and tuna-like species of the Indian Ocean, while others are more general and may relate to wider aspects of fisheries, such as the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the FAO Committee on Fisheries (COFI), the Southern African Development Community (SADC), and the Indian Ocean Commission (IOC).

Minister Boolell recognises that "the IOTC are playing their role in a very responsible manner. We have human capacity and capabilities, but we need resources to ensure that we are able to do our jobs effectively. The financial costs which MCS entails are huge, and therefore I trust that all the members of the IOTC, our European partners and member States which belong to the CCAMLR, they do realise that small vulnerable countries far away from remunerative markets are doing their level best at a time when they are facing a lot of undue hardship, factors that are beyond their control, and yet they are earmarking the resources to be allocated to that specific sector in spite of the undue hardship. So both the effort and political will is there, but we need financial resources up front so the plea that we have made to our traditional partners, to other member States that are members of those international conventions is that commitment pledges made become realities."

Speaking on international cooperation, Minister Boolell emphasises that "there should be sincerity of purpose in the war being waged on IUU fishing. This war is necessary if you do not want to see our stocks constantly being depleted, because it is to the detriment of the whole nation, and to people throughout the world. In fact, stopping IUU fishing is a war, and it is the concern of everybody."

Namibia

Stop Illegal Fishing Programme Interview with the Hon. Minister Dr. Abraham Iyambo, Minister of Fisheries and Marine Resources.

Namibia has become a centre of MCS excellence since gaining its independence in 1990. Minister Iyambo explains to Sally Frankcom, of the Stop Illegal Fishing Programme, how Namibia is looking forward to seeing greater regional cooperation in the fight to stop illegal fishing.

Namibia has one of the most productive fishing grounds in the world. This is due to the sea off Namibia having exceptional biological productivity as a result of the upwelling of nutrients resulting from the Benguela current.

Prior to Namibian independence in 1990, uncontrolled fishing on a massive scale greatly reduced the abundance of all the major fish stocks. During the 1960s factory ships undertook fish processing at sea outside the then 22 kilometres jurisdiction of Namibia's fisheries administration, leading to the serious depletion of pilchard and anchovy stocks.

The late 1960s and 1970s saw the development of long distance freezer trawlers further increasing foreign interest in Namibia's offshore fishing grounds, and increasing reported hake catches from under 50 000 metric tons in 1964 to 820 000 metric tons in 1972.

Minister Iyambo recounts that, in March 1990, on the eve of independence, "the founding President of the country requested that all those fishing nations that were operating in Namibia leave our waters in order to allow us to put in place necessary laws, starting with the Exclusive Economic Zone (EEZ) and the Marine Resources Act. Some operators, from some countries did not heed to that. They refused to go. They continued to try and be clever. We arrested them with the assistance of our colleagues from South Africa. At the time we did not have our own equipment. We did not have our own patrol vessels or patrol planes. They were arrested and in a court of law these vessels were confiscated. They became the property of the Government of Namibia. This sent a clear and unambiguous message that the new Namibia is serious about protecting its resources."

These high profile and dramatic arrests effectively ended the plunder of Namibian fish resources by foreign distant-water fleets that had been going on for decades. Scientists reported that this action had come just in time, as the valuable hake fishery had been fished down to levels that would very soon have been depleted beyond recovery.

When other small coastal States had found it impossible to effectively control such operations in their EEZs, they faced little real alternative than to sanction continuation of the foreign operations through licensing arrangements that did not leave them in real control. Namibia was also quick to put in place measures to reap the rewards from sustainable utilisation of its fisheries. "In Namibia we shied away from Access Agreements. That is why we placed priority on learning how to manage our resources and how to control the fishing activities within our EEZ."

Monitoring, control and surveillance

Namibia's monitoring, control and surveillance (MCS) system has evolved over the years into what is today widely regarded by the international community as a very effective system. There was initial support for Namibia from Norway to invest in patrol vessels, but crucially there has been the financial, human and material support from the Namibian Government itself.

Minister Iyambo explains that "MCS is not an easy thing: firstly it is costly; secondly, it needs human resources. For Namibia, fisheries contribute more than 25% of the value of our exports. We have just no choice but to invest in equipment, invest in personnel and put up a very visible, very clear regime."

An integrated programme of inspection and patrols at sea, on land, and in the air ensures continuing compliance with Namibia's fisheries laws. "If you are leaving our ports, at Walvis Bay or Lüderitz, we have nearly 100% observer coverage. We have close to 200 observers that we deploy. The observer regime adds to the better management of fisheries by ensuring compliance and collecting scientific information. It has worked well. We have

strengthened it with a vessel monitoring system (VMS) – a computer system that controls the whereabouts of vessels from the port of Walvis Bay."

In addition to the observer programme, Namibia has two aircraft operating air patrols to detect and deter unlicensed fishing vessels and monitor the movement and operations of the licensed fleet. Shore patrols by the three patrol vessels ensure compliance by both recreational and commercial fishers with conservation measures for inshore resources.

Complete monitoring of all landings at the two commercial fishing ports, Walvis Bay and Lüderitz, by onshore inspectors ensure compliance with quota limits and associated fee payments.

The only real weakness in a very effective MCS system is that of the penalties imposed for illegal fishing. Minister Iyambo says, "What we as an inspectorate can give and suggest as a penalty was always very low. At the moment the penalties are 'business as usual'. It's like you pat someone on the back for fishing illegally. It is not a deterrent. So what is required is to review the penalties both in the EEZ and as part of the regional organisations."

Illegal fishing

"Illegal fishing is a big issue and it is taking place under the nose of many countries. It is, therefore, the responsibility of us as MPs, as politicians, as managers, to ensure that we have national laws, but that we also contribute internationally.

The illegal fish are landed at ports, and the ports are in the jurisdiction of States, of countries. If the fish are landed in Walvis Bay, in Maputo or Durban there should be the political will for us to stop this. Most fishing takes place under a regulatory regime with a license. This includes what we call 'Flags of Convenience' vessels. I call it a 'Flag of Inconvenience'. There is nothing convenient about it: they fish illegally and contribute to over-fishing and destruction and plunder of the natural resources."

Namibia is the only SADC country that has fully implemented its National Plan of Action on Illegal, Unreported and Unregulated fishing (NPOA-IUU). Minister Iyambo stresses the importance of getting such a plan in place. "This is not a problem of one country or the SADC region. It is a global problem and we need to be able to act. But the time of tough words, the time of cosy boardrooms and talking nicely, the time of talking has come to an end. We can have all these wonderful action plans, but if countries are not taking action to be able to punish those who are concentrating on illegal fishing we will go back to the past.

Globally we have been talking about a lot of these issues but I think that there is a lack of political will. Experts in the world, they can talk as much as they want, non-governmental organisations can talk as much as they want. The politicians, because they have that privilege of having the power to take actions, should come to the table. Experts have done their jobs. But if we as responsible managers, Ministers, do not take action on the nationals and the multinational companies and our responsibilities then we should forget about protecting the precarious state of the world's fisheries. Plunder will continue, over-fishing will continue, mismanagement will continue.

We should maybe treat fisheries in the same way that we deal with drugs. You are not allowed to traffic drugs. Transporting illegal fish should become illegal. Maybe through the UN Law of the Sea we should have an appendix making that an offence.

So we have the action plan in Namibia. We are commending it to other countries so that we are able to fight IUU, taking action. Not a plan of talk, but a plan of action."

Regional and international cooperation

Namibia is not just interested in looking after its own waters; Minister Iyambo has played a prominent role internationally with his participation in the international High Seas Task Force (HSTF), through SADC and through Namibia's active involvement with the International Commission for the Conservation of Atlantic Tuna (ICCAT), the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), and the South East Atlantic Fisheries Organisation (SEAFO).

"We are members of ICCAT and we play our responsibilities to that: to ensure that tuna is well-managed in the world, taking into account its vulnerability because of its straddling, migratory nature. We are also members of CCAMLR. I am very proud to say that Peter Amutenya, Namibia's MCS Director, is the chairman of this organisation for the next two years, till 2009. I am happy that we are contributing to the management of Patagonian toothfish.

SEAFO was an idea that the current President, when he was the Minister of Fisheries and Marine Resources, was driving with so much energy, and when I took over from him we discussed the importance of establishing this organisation. It was

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United Kingdom

Stop Illegal Fishing Programme Interview with the Hon. Minister Gareth Thomas, Parliamentary Under-Secretary of State for International Development at the UK's Department for International Development (DFID).

Minister Gareth Thomas explains to Sally Frankcom, of the Stop Illegal Fishing Programme, what action the UK is taking to tackle illegal fishing.

Fisheries provide food and livelihoods to millions of people in sub-Saharan Africa and this is therefore an area to which the UK's DFID is attaching increasing importance.

Minister Thomas highlights the importance of a number of products that are sourced from developing countries, of which fish is a very important one. "Roughly 60% of the fish that comes into the EU market comes from developing countries. About 14% of the fish that comes into the UK market comes from developing countries. There are obviously significant opportunities for those figures to rise still further.

So DFID's concern is both the health of developing countries - increasing jobs and incomes for people working within the fishing industry - but also to make sure that the fish that is produced is harvested in a way that is sustainable and prevents illegality and avoids corruption, all of which are significant challenges."

DFID is also working with the World Bank in taking the message forward that fisheries require urgent investment in governance capacity rather than in capacity to catch yet more fish unsustainably. As part of this process, the UK is taking an international lead in defining new approaches to fisheries management that are better able to generate growth, learning from success stories from other nations such as New Zealand, Iceland and Namibia.

The UK chaired the Ministerial High Seas Task Force (HSTF) that operated during 2002-2004 and that was so instrumental in raising the international profile of illegal fishing as a serious global issue. Following on from the HSTF, Minister Thomas explains that the UK has maintained the momentum gained "by organising a series of consultations going forward from the task force under the Chatham House banner here in the UK." (For more information on the Chatham House's work on illegal fishing go to www.illegal-fishing.info.)

Furthermore, the UK has also undertaken studies on the impacts of IUU in developing countries and on ecosystems; supported the Monitoring, Control and Surveillance (MCS) Network; supported work on the Global Record of Vessels, working with the Food and Agriculture Organisation (FAO) and industry; as well as supporting work with developing countries.

The UK "is actively in discussions with a number of countries in Africa as to what we can do to help them both to drive out the illegal operators and get better access to European markets. We've been working in Europe on a regulation that will help to incentivise countries to tackle illegality. We are also working with the industry here in the UK to encourage them to look at buying goods from Africa."

The UK and British industry are generally very positive about the proposed new EU regulation. It takes a refreshing market based approach to enforcement through placing the burden of proof on the flag State of the fishing vessel to demonstrate products are legal. It achieves this through product certification and traceability. The EU regulations will "place a requirement on countries from which the fishing vessels have come to prove that the fish that they have caught has not been illegally caught. So it creates a direct market incentive for countries to prove the fish they've caught haven't been caught illegally and that's quite a powerful market based incentive for countries that want to sell goods into the EU market, to tackle illegality, to help conserve fish stocks." This should also help tackle the issue of non-compliant States – so called 'Flags of Convenience'.

At the same time the UK recognises potential barriers to trade for developing countries and is working with the European Commission to ensure there is adequate provision for capacity building and awareness in exporting developing States.

Another area where Minister Thomas is applying pressure in the EU is on the issue of Fisheries Access Agreements, "we are pretty sceptical about the benefits that Fisheries Access Agreements have had. We think that the ones that the EU has concluded

are better than some that have been negotiated around the world. But we're sceptical. We're one of a number of member States that feel that they are not terribly helpful to developing countries and we will continue to make the case in Europe for the reform of those Fisheries Access Agreements."

Minster Thomas has recently introduced an initiative in the UK challenging the UK supermarkets to 'buy African', emphasising the benefits of ethical buying for the consumer, but also highlighting the benefits that this trade can bring to developing countries. By doing so the UK "is trying to challenge those certification schemes that disadvantage developing countries. That's one of the reasons that we have sought to highlight the benefits of trade with Africa and challenge the whole food miles debate.

Many goods that are produced in developing countries use less carbon emissions for example than those produced elsewhere in the developed world. We can usefully highlight that. This is something that we can hopefully do in the UK to encourage consumers here in the UK to take a broader picture."

The DFID has been instrumental in supporting the Stop Illegal Fishing Programme. One suggestion for the continuing of the momentum that has been realised in the Southern African region is for the formation of a Southern African Task Force to Stop Illegal Fishing. Minister Thomas thinks that "the task force is an interesting idea, but I'll look to the leadership of Minister Iyambo and his colleagues as to whether or not they want to go down that route or whether they've got other ideas for taking forward work on illegal fishing.

We will certainly continue to support African countries efforts to tackle illegal fishing."

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NAMIBIAN MINISTERIAL INTERVIEW

an idea of Angola, South Africa and Namibia to have such an organisation and we are happy that many countries with an interest in the region joined us in this.

With respect to the Regional Fisheries Management Organisations (RFMOs) of ICCAT, CCAMLR and SEAFO, we are playing our role. We are prepared to share our limited experience and we are prepared to do it generously so that we protect the resources of the sea."

Minister Iyambo is clear that "the SADC region should not be an area where the pirates come and plunder. It should not be a source for illegally fished products or a transit for those who want to go to the market with illegal products. Through my experience with Namibia, with the international High Seas Task Force and with Africa, I think that I have learned quite a lot of things, and this leads me to believe that illegal fishing is a trans-national crime. It is a scourge. It is encouraging overcapacity in terms of fishing. It is encouraging the distortion of trade. It is something that we should jointly fight not only as a country but as a region."

Minister Iyambo suggests that a Southern African Task Force to Stop Illegal Fishing would be a positive way of tackling the issue. "It is just the right platform to launch our protracted campaign and fight against illegal fishing. So the energy is there. The political will is there. Yes, we need assistance: to be able to have more documentation analysing what is happening; for us to know who are these people who are involved in illegal fishing.

So I do believe that we need a task force. A task force that will be hinged to the SADC Protocol on Fisheries; a task force that will not be there for talking, but a task force that will have teeth. That will be given, by our governments, a responsibility, a task to fight illegal fishing in the region and wherever it is taking place. SADC is only part of the bigger mother Africa. If we are to efficiently and positively fight illegal fishing then it should be made bigger as it is bigger. It should not just be part of the Southern African region.

There is a problem and our vulnerable communities are suffering and will continue losing. Our stocks are being destroyed. The generations to come will be more at peril. It is very important that we promote such an idea to the African Union, so that this becomes part of the African agenda, so that we can fight IUU fishing. So a task force, yes. But it should be a task force with teeth. We want industrialised nations to participate in such a task force, from where many of the people who are engaged in IUU fishing are coming from, so that apart from benefiting from Africa the time has come now to protect those resources jointly with us.

We are thinking much bigger than the region, we are thinking for the world at large."

THEMES AND ISSUES

CONTENTS

By Suzannah Walmsley, Marine Resources Assessment Group Ltd (UK)

What are the benefits, challenges and priorities for fisheries in developing countries?

Fisheries and International Trade

Background

The following constitute significant facts and data surrounding fisheries, international trade and developing countries:

- Fish trade benefits developing countries via export revenues, employment in the fisheries sector and food security, the last of which is enabled through the importation of dried, smoked and preserved fish products.
- Export revenues for developing countries are limited by the demanding hygiene and sanitary regulations and high import tariff rates for processed products that are imposed by developed countries. Subsidies to developed countries' fishing fleets and processing sectors also make it difficult for developing countries to compete.
- International trade puts increasing pressure on fish stocks. For this trade to be sustainable, it must be coupled with effective resource management to ensure that stocks are not over-exploited.
- Thirty-eight percent of fisheries and aquaculture production is traded internationally. This trade was worth US$8 billion in 1976, US$58 billion in 2002 and US$78 billion in 2005. Forty-eight percent by value originates in developing countries, and 72% is destined for markets in the EU, USA and Japan.
- The most important species traded are shrimp (16.5% by value in 2004), groundfish (e.g. cod, hake, pollock and haddock - 10.2%), tuna (8.7%) and salmon (8.5%)[1].
- An increasing proportion of fish traded comes from aquaculture, which accounts for over one-third of global fisheries production. Most of this trade is regulated by the World Trade Organisation (WTO).
- China is the world's number one producer and exporter of fish products. It was responsible for 10% of world exports by value in 2006[2], much of which was re-exports (fish that had been imported, processed and exported again).
- The fish trade can bring a range of benefits, but its potential impact on fish stocks, social equity and economic development must also be considered to minimise negative impacts and to promote sustainable development.

Benefits of the international fish trade for developing countries

Developing countries obtain important foreign currency earnings from fish exports. Net revenues for developing countries from fish exports were US$20.4 billion in 2004, greater than those for other major commodities, such as coffee, cocoa, sugar and teas, combined.

Although a food resource is being exploited, these foreign currency earnings can contribute positively

Major trade flows of fish and fisheries products. For intercontinental flows, only those worth over US$500 million per year are shown. Adapted from FAO (2007) [1]

The international fish trade promotes employment and income generation in the various fishing sectors.

to food security by enabling the importation of other foodstuffs[3].

The international fish trade also promotes employment and income generation in the fishing, processing and export sectors. The extent of these benefits depends on the amount of value added the country is able to capture. This may be through the provision of port services, selling high value, high quality fish, such as sashimi-grade tuna, or the creation of products ready for retail.

Benefits of the international fish trade for developed countries

Consumers in the EU, USA and Japan have a high per capita consumption of fish. The depletion of fish stocks in their own waters, and a preference for species such as lobster, tuna, shrimp and octopus, have led to a reliance on imports to satisfy demand.

Controversial issues

Tariffs and quotas

High tariffs in importing countries, especially for 'sensitive' processed products (such as canned tuna, frozen tuna loins for processing, and canned or processed shrimp) make it difficult for exporting countries to capture value added benefits. They tend to export fish in unprocessed or frozen form to avoid paying these high import duties.

The huge increase in the value of developing country fish exports over the past 30 years has resulted from increasing volumes, rather than added value. However, African, Caribbean and Pacific (ACP) countries have benefited from 0% import tariffs to the EU market, and have gained a prominent position in the supply of processed fish products as a result (see Box 1 overleaf).

In turn, the average import tariffs in developing countries themselves are much higher than in developed countries; these high tariffs are meant to generate revenue and protect local industry.

Coupled with low purchasing power and low demand, these high tariffs have limited south–south regional trade, with only 15% of developing country fish exported to other developing countries. However, this figure is likely to increase with the tariff reductions expected as a result of WTO negotiations, increasing numbers of regional free trade agreements, and increasing consumer spending power in developing countries.

Hygiene and sanitary standards

Developed countries impose strict food safety measures on products imported from other countries. For example, to export fish and fisheries products to the EU, vessels must carry a veterinary certificate and processing factories must be inspected and passed by a national competent authority accredited by the EU.

BOX 1: ACP COUNTRIES, EPAS AND FISH TRADE

The fisheries sector plays a key role in the economy of many ACP countries. Namibia, Senegal and Tanzania are major exporters of unprocessed fisheries products, whilst Seychelles, Côte d'Ivoire, Ghana and Mauritius export substantial quantities of processed products, in particular canned tuna. At the same time, some ACP countries also import unprocessed fish.

Until the end of 2007, ACP countries benefited from preferential market access to the EU under the Cotonou Agreement. This benefit was particularly pronounced for 'processed' products (such as frozen tuna loins, canned or processed tuna, shrimp and molluscs) upon which other countries paid tariffs of 20–24%, with the result that ACP countries supplied 12% (by value) of unprocessed and 33% of processed fish imports to the EU in 2003[6].

ACP countries are particularly concerned with the EU reducing its general import tariffs as a result of WTO negotiations. This will cause 'preference erosion', reducing the relative benefit that ACP countries enjoy over countries paying full import tariffs. The ACP countries are already losing their share of the EU market in a growing market, supplying 22% of processed fish imports to the EU in 2005[7].

The Cotonou trading arrangements between the EU and ACP countries were not compatible with WTO rules, since they were not reciprocal nor offered to all developing countries. As a result, the EU is negotiating Economic Partnership Agreements (EPAs) with six regional ACP groups (Caribbean, Pacific and four groups in Africa).

As of January 2008, 35 ACP countries had signed a full or interim EPA across the six regions (42 had not signed) and will benefit from 100% duty and quota free access to EU markets.

These full and interim EPAs comply with WTO rules and came into force on 1 January 2008. Countries that have not signed are covered by 'Everything But Arms' (for LDCs) or GSP (for non-LDCs).

Details of the agreements differ across regions. The Pacific gained improved Rules of Origin for fisheries products, allowing Pacific ACP countries to purchase fish from vessels of any nationality for processing. Eastern and Southern African countries can export up to 10 000 tonnes of tuna of any origin to the EU.

Negotiations continue on certain issues; with countries not yet ready to sign the interim EPAs will be negotiated to full EPAs during 2008.

These standards are generally a greater barrier to trade for developing countries than tariffs and duties. The difficulties developing countries have in complying with such standards mean that fish may be imported to the EU through channels where controls are less stringent; this can also facilitate the import of illegally caught fish.

Labelling and certification

Increasing interest in eco-labelling (certifying that products meet certain environmental criteria), and supermarkets' independent initiatives to do so, also pose challenges for developing countries. It can be difficult for them to meet the certification criteria, especially where there is a lack of management capacity and limited financial resources to sustainably manage fish stocks.

However, with changing consumer demand and informed choice, the certification of the social, environmental and ethical aspects of production has the potential to act as an incentive for better fisheries management, by potentially providing access to more lucrative markets.

Food security and livelihoods

The international fish trade increases the price of fish at local markets, due to the demand from exporters. It can also change the type of fish and shellfish available to local consumers (e.g. in Tanzania, octopus, once a cheap, locally consumed food, has become a high value export commodity[4]). Increasing prices and decreasing availability can adversely affect local, traditional fish processors (often women who salt, smoke or dry fish) as prices rise.

Illegal fishing

The international fish trade can result in illegally caught fish entering markets. The EU has recently proposed a new regulation on illegal, unreported and unregulated (IUU) fishing, with the aim of integrating measures to conserve stocks and to restrict the trade of illegal fish. For example, tightening the supply chains to limit the potential for illegally caught fish to enter the EU market will reduce the profitability of illegal operations and ease pressure on fish stocks.

ACP countries have benefited greatly from trading arrangements.

Impact on resources

Increasing consumer demand has continued to be met by increasing production; and in most cases management has not been strong enough to prevent the over-exploitation of fish stocks. This is likely to jeopardise the sustainability of the fish trade, unless parallel, effective management measures are put in place to control the exploitation of stocks.

The EU and international trade

The EU is the world's largest importer of fish and fisheries products and is increasingly dependent on imports for its fish supply, accounting for 39% of global fishery imports and 25% of exports by value in 2004[5].

This has raised concerns that the EU's policies on import tariffs, fishing subsidies, access agreements and complex 'Rules of Origin' (RoO) that determine the import tariffs to be applied depending on where, how and by whom fish has been caught and processed, may have distorted international fish trade. However, the trade figures combine the trade statistics for each individual EU country and therefore include a substantial amount of trade between EU countries: 84% of EU exports go to, and 50% of imports come from, another EU country. Therefore, the distortion is not as great as is sometimes imagined.

Nevertheless, it is likely that the EU's policies have distorted fish trade somewhat; ACP countries have benefited from the trading arrangements through preferential market access (see Box 1). To qualify for this special access, fish from ACP countries had to meet complex RoO, i.e. to be caught by an EU- or ACP-owned and flagged vessel, with 50% of its crew members from the EU or ACP.

Many ACP countries do not have their own fishing vessels, so they must enter into access agreements to allow EU vessels to fish in their waters, in order to obtain 'originating' fish that qualify for 0% duty to the EU.

These trade agreements, which provide access for EU vessels to the waters of third countries, also have an impact on trade. Fish caught under Fisheries Partnership Agreements (FPAs) may be trans-shipped or landed directly to an EU port and thus never enter trade statistics. This may reduce the potential value of exports from these countries by up to 20%. In other cases, such as the Seychelles, trade figures are inflated because local landings by EU vessels are registered as an 'export' from the EU to the Seychelles.

Maximising the benefits

International fish trade can bring substantial benefits to developing countries, which can be maximised through increasing the added value they are able to capture. For this, the whole supply chain, from harvesting (supply) to markets (demand) must be considered.

There are a number of risks and challenges that need to be overcome, including:

- Developing countries must be able to meet the standards and criteria set by importing countries and retailers, for both mandatory and voluntary requirements.
- Large and especially small scale producers in developing countries may need extra support to be able to comply with international trade standards, and to access international markets in an era of increasing consolidation in the food retail sector.
- Increasing fish exports should not result in increased prices on local markets and traditional fish processors' livelihoods should be protected.
- Fisheries resources must be effectively managed for the fish trade to be sustainable and to continue to provide benefits in the long-term.
- Environmental and sustainability issues in aquaculture production must be taken into account, as most future increases in the volume of the fish trade are likely to come from aquaculture.

For footnote details see page 84.

By Charlotte Tindall, Marine Resources Assessment Group Ltd (UK)

Can fisheries certification be used in the fight against illegal fishing?

Fisheries Certification

Why fisheries certification?

Certification initiatives, ranging from Fairtrade to eco-labels, have become common place in today's European and American markets. The greatest driver for fisheries certification has been environmental sustainability, as processors and retailers respond to demands from customers and NGOs to avoid over-exploited fisheries. Many certifications provide an eco-label that through preferential consumer choice creates market incentives.

What is the current state of play?

Although there are a number of different fisheries certification schemes emerging that focus on sustainability, the most established initiative is the Marine Stewardship Council (MSC).

As of December 2007, there were 1 123 MSC-labelled products. Most MSC certified fisheries are in developed countries; and there are only two in developing countries: the Mexican Rock Lobster and the South African Hake Fishery.

What is the consumer and retailer demand?

There is increasing interest from consumers for sustainable fisheries products. In a recent survey undertaken by the Seafood Choices Alliance in the UK market in 2007, 74% of respondents reported that environmental considerations were quite or very important. Other studies have suggested that consumers are more likely to be driven by value-for-money, quality and convenience, rather than sustainability concerns.

There is considerable demand for sustainably sourced fish from US and European markets. Examples include:

- Sainsbury's (UK retailer) has made a commitment to source all its wild-caught fish from sustainable sources by 2010.
- In the Netherlands, 25 chains of retailers have set targets to sell only MSC certified seafood from 2011.
- Marks and Spencer (UK retailer) has committed to sourcing 100% of their fish from sustainable sources (MSC certified or equivalent) by 2012.
- Walmart (US retailer) and Asda (UK counterpart) have announced that they intend to shift their supplies of wild-caught fresh and frozen fish to MSC certified fisheries by 2009-2011.

What are the current issues with certification schemes?

Despite the considerable growth in fisheries certification in recent years, there are still a number

OTHER CERTIFICATION INITIATIVES RELEVANT TO FISHERIES

FRIEND OF THE SEA:
http://www.friendofthesea.org
Gained market access with retailers in Italy and Spain and has certified some fisheries in developing countries (e.g. 15 fish species from Senegal).

FAIR FISH:
http://www.fair-fish.ch
Has been applied to a fishery in Senegal and includes environmental, social and animal welfare criteria.

NATURLAND:
http://www.naturland.de/naturland_fish.html
Predominantly an organic label, this has been used to certify selected fish farms (in developing and developed countries) and is currently being applied to wild-caught fisheries on Lake Victoria.

SEAFISH RESPONSIBLE FISHING INITIATIVE:
http://rfs.seafish.org
Certifies on a vessel-by-vessel basis; while it originated in the UK, it is currently being tested on tuna vessels operating in Sri Lanka.

FISH4EVER:
http://www.fish-4-ever.com
Sources fish from 'small scale' fishing operations targeting tuna, sardines and anchovies off the coast of Spain and Portugal.

FAIRTRADE:
http://www.fairtrade.org.uk
Not yet applied to fisheries products, although some interest to apply it to farmed shrimp and wild-caught fisheries, such as Indian Ocean tuna and Lake Victoria Nile Perch.

Certification initiatives have become common place in today's European and American markets.

of issues related to such initiatives and consequences for developing countries. These include:

Low capacity in developing countries and high costs to reach certification: This includes the cost and difficulty of: achieving the set criteria, the certification process, and maintaining certifiable status. Some assessments (e.g. Friends of the Sea) are more rapid and more affordable to developing countries, but are considered less credible by NGOs.

Potential non-tariff barriers for developing countries: If certification becomes a pre-requisite for market access, there is concern of restricting opportunities to develop export markets (ICTSD, 2006). Certified fish does not guarantee a price premium; and it is not yet clear how costs and benefits of the process are distributed throughout the supply chain (UNCTD, 2007).

Credibility of certification schemes: A key issue for all involved in certification is the credibility with the market, consumers and NGOs. This has been enhanced by the internationally agreed Food and Agriculture Organisation (FAO) guidelines and the International Social and Environmental Accreditation and Labelling Alliance (ISEAL) code of conduct for certification; but there is no formal scheme by which certification schemes are benchmarked.

Low involvement of developing countries in standard setting: Although many of the certification schemes may be applied in the future to developing country fisheries, there has been relatively low involvement of developing country representatives in the standard-setting process (Poseidon, 2004).

Focus on environmental issues, while social and legality issues may be of equal importance in developing countries: Achieving ecological sustainability is a basis for achieving social and economic sustainability. However, there are other issues including Illegal, Unreported and Unregulated (IUU) fishing and ethical considerations that are not currently covered by the major certification schemes (MRAG, forthcoming).

EXAMPLES OF MSC CERTIFIED SOUTH AFRICAN HAKE

Hake is the most important commercial fishery in South Africa, accounting for 40% of the total value of the country's fish and fishery exports. MSC certification for the deep-sea hake trawl fishery was gained in April 2004. The drivers were a demand from European retailers, competition with MSC certified New Zealand Hoki, and maintaining market access above competitors from Namibia, Chile and Argentina.

The certification process addressed environmental issues, including the impact of the fishery on seabirds. There were also suggestions of political motivations to restrict access to quota to the trawl fishery (Ponte, 2007). However, at the end of 2007, traditional fisheries in South Africa secured fishing rights following an equality order.

Certified fish does not guarantee a price premium.

What are the opportunities for using certification to address illegal fishing?

As discussed, while certification has focused on environmental issues, there may be opportunities to use it in the fight against IUU fishing since developing countries lose significant revenue from fisheries through IUU fishing.

1) Incentives to reduce IUU fishing through environmental certification

Environmental certification can be used as an incentive for fisheries to reduce illegal fishing, as certification should not be awarded where there are high levels of illegal fishing. In order to obtain certification, fisheries managers would therefore need to reduce the incidence of illegal activity. This therefore provides a direct economic driver for fisheries managers to decrease the level of IUU catch itself.

2) Enhancing traceability

Systems for traceability that are often integrated within certification could be expanded to provide assurances to the market that the fish is not from illegal sources. Some systems can be very sophisticated; however there are also examples of lower-tech traceability systems that have been effectively applied in developing countries.

3) Introducing an IUU certification scheme

A separate certification system could be set up to verify seafood supplies that can be proved not to be from IUU sources. Under the proposed EU Council Regulation (2007/0223) on IUU fishing, products being imported into Europe from both developed and developing countries will need to be 'certified' as legal catch by the flag States.

A key question is the extent to which third-party certification could be used to provide assurances to fulfil the EU regulations and provide assurances to other markets. In the UK, Seafish and the Food and Drink Federation are in the process of developing a risk-assessment protocol for sourcing non-IUU fish products.

MSC AND IUU FISHING

The MSC standard requires that a fishery obeys all local, national and international laws. It also requires that there should be appropriate procedures for monitoring control, surveillance and enforcement. Fisheries that do not meet these requirements, and by extension, fisheries characterised by IUU fishing cannot be certified.

The MSC's Chain of Custody certificate ensures that fish sold bearing the MSC label can be traced back from the point of sale to the point of landing. It is possible to extend the Chain of Custody to the catching vessel where there is a higher risk of IUU. Every company involved in the chain of MSC-labelled fish must undergo a MSC Chain of Custody assessment.

EXAMPLES OF EMERGING TRACEABILITY SYSTEMS

- Computerised Youngs Trace system applied by Youngs Bluecrest[1] to some Scottish nephrops (i.e. scampi) fisheries.
- Individual box-traceability system developed by MRAG Ltd for the MSC certified South Georgia toothfish.
- Genetic traceability programmes, e.g. GenTrack system in use by Geomar for farmed seafood species (Seafood International, March 2008).
- Internal risk-based traceability systems in development by EU seafood importers and processors.
- Mass balance monitoring where weights going in and out of one link in the chain are checked.

LOW-TECH SOLUTION TO TRACEABILITY IN MAURITANIA

Mauritania has recently set up a traceability system for artisanal pot-caught octopus that is destined for international markets. Boats are coloured to indicate which zones they fish in; and at the landing site each lot of fish that is transferred to the factory is recorded with information on the volume, date and areas of capture and the boats that contributed to the catch.

Source: Sid'ahmed Ould Abeid, National Fishermen's Federation, Mauritania.

Concluding points and issues for discussion

- **Opportunities for certification to combat IUU:** Fisheries certification provides a potentially powerful market based measure to incentivise legal supply chains and deter illegal sources from entering the market. It could be achieved through environmental certification, enhanced traceability or a separate legal certification.
- **Overcoming barriers to certification for developing countries:** Certification presents barriers to developing countries that wish to export their seafood produce to European, American and Japanese markets. The EU proposed regulation on IUU fishing does not provide for capacity building within developing countries, compared to similar approaches in tackling the illegal timber trade.
- **Certification schemes therefore need to take developing country situations into account:** Alongside capacity building for developing countries, the design of certification systems needs to be appropriate. There may be low-tech options available that could be identified with the participation of developing country representatives in the design of new systems.

Developing countries lose significant revenue from fisheries through IUU fishing.

For article references and footnote details, see page 84.

By Gilles Hosch, Fisheries & Coastal Resources Planning & Management

What is the implementation status of the International Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing in Southern Africa?

Assessing the IPOA-IUU

"The General Assembly, emphasizes once again its serious concern that illegal, unreported and unregulated fishing remains one of the greatest threats to marine ecosystems and continues to have serious and major implications for the conservation and management of ocean resources, and renews its call upon States to comply fully with all existing obligations and to combat such fishing and urgently to take all necessary steps to implement the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing of the Food and Agriculture Organization of the United Nations".

UN General Assembly Resolution on Sustainable Fisheries A/RES/61/105 – paragraph 33. UN, New York; 2006

Introduction

Illegal, Unreported and Unregulated (IUU) fishing is viewed as one of the key culprits denying success in the rational management and sustainable exploitation and conservation of world fisheries resources.

In 2001, the FAO, through its Committee on Fisheries, adopted the International Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). The IPOA-IUU is a voluntary instrument listing a host of measures that countries and regional fisheries bodies should adopt, depending on the nature of their fisheries, in order to eliminate IUU fishing.

Although voluntary in nature, the IPOA-IUU sources many of its provisions from binding international fisheries instruments. In order to adopt IPOA-IUU measures in a consistent way, countries were encouraged to develop their own National Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing (NPOA-IUU), sourcing measures from the 'tool box' represented by the IPOA-IUU, and adapting them to their particular situation.

The 'tool box' measures include blocking avenues for fraud in critical domains, such as coastal State, port State and flag State controls, and through regional mechanisms and Regional Fisheries Management Organisations (RFMOs).

The IPOA-IUU is based upon the principles of participation and coordination of systematic and integrated approaches, and of transparency and non-discrimination. National, regional and

Table 1 - SADC Members and NPOA-IUU Progress

	Decision	Draft	Active	Comments
Angola	Yes	Provisional	-	Preliminary draft still needing a substantial amount of work to become a complete first draft
DRC	Yes	-	-	DRC has expressed verbal interest vis-à-vis the FAO providing assistance to develop its NPOA-IUU
Madagascar	Yes	Yes	-	Developed its first full draft NPOA-IUU in April 2008 with assistance from the Stop Illegal Fishing Programme
Mauritius	Yes	-	-	NORAD has pledged firm support to help Mauritius draft its NPOA-IUU before end of 2008
Mozambique	Yes	Yes	-	In the process of finalising its first full draft, expected to be adopted in 2008
Namibia	Yes	Yes	Yes	The only SADC coastal member to have finalised and officially adopted its NPOA-IUU
South Africa	?	-	-	It remains unclear whether a firm decision to draft an NPOA-IUU has been taken
Tanzania	Yes	Provisional	-	Provisional draft will be developed with support from the Stop Illegal Fishing Programme in April 2008 to deliver a full draft

Namibia is the only SADC coastal member to have finalised and officially adopted its NPOA-IUU.

international coordination and collaboration represent key elements in the implementation process, underlining the fact that IUU fishing is an international, trans-boundary phenomenon that cannot be effectively addressed through disconnected national efforts alone.

Countries were encouraged to have their NPOA-IUU action plans developed by the end of 2004. Along with most countries and regions around the world, no SADC member managed to make that suggested deadline. However, progress is being made, and now two of the eight SADC coastal members have succeeded in planning their stance against IUU fishing in a dedicated and structured manner.

Every government approached during the writing of the IPOA-IUU Implementation Status Report for the SADC Region agreed that IUU fishing must be addressed in a structured way by SADC member countries, and based on the IPOA-IUU principles of regional coordination and collaboration.

The SADC maritime region

The main feature of the SADC maritime region, in terms of overall fisheries layout, is that it is spread out across two large and distinct ocean basins, of which the first one is the central and south eastern Atlantic Ocean, and the other the south west Indian Ocean.

Fisheries of the south east Atlantic are characterised by trawl fisheries targeting pelagic, demersal finfish and crustacean resources, while fisheries of the south west Indian Ocean are by and large defined by industrial scale, longline and purse seine fisheries of highly migratory and trans-boundary large pelagic.

While the entire south eastern Atlantic seaboard southward of latitude 6° S is populated by SADC Member States, this is not the case for the South West Indian Ocean (SWIO) region. In this region, SADC Member States are relatively few, compared to the number of SADC non-members sharing that region and its marine resources, hence challenging SADC's role as a leader on ocean and fisheries governance issues.

Challenges

As a region, SADC continues to have a number of national fisheries administrations that face severe limitations in technical and budgetary assets to respond to the challenges of IUU fishing. Many monitoring, control and surveillance (MCS) set-ups throughout the region remain poorly developed, under-funded, and lack human capacity.

Large differences in human development terms exist between countries. Some of the SADC members have emerging economies, others are middle-income economies, while some continue to figure at the bottom of UNDP's human development index.

This lack in homogeneity that induces vast differences in governance style and capacity is one of the crucial factors that make it difficult for certain neighbouring States to collaborate positively and effectively in combating IUU fishing. These

STOP ILLEGAL FISHING PROGRAMME SUPPORTS NPOA-IUU DEVELOPMENT IN MADAGASCAR

Following initial contacts made at the Maputo meeting organised by the Stop Illegal Fishing (SIF) Programme in October 2007, Madagascar submitted a request for support to develop its National Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing (NPOA-IUU) to the SIF Programme in February 2008. The development of NPOA-IUUs for SADC Member States was one of the SIF Programme funding options identified in the report on IPOA-IUU implementation status in SADC, which had been produced by the Programme in late 2007.

The NPOA-IUU development mission took place in March-April 2008, and resulted in a first full NPOA-IUU draft that is currently being considered by the Ministry of Fisheries and the Government of Madagascar for finalisation and adoption. The mission, which was headed by lead consultant Mr. Gilles Hosch, worked in close association with the Directorate of Fisheries and Marine Resources (DPRH) and the Centre for Fisheries Surveillance (CSP). A wide array of private and public sector stakeholders and regional programmes based with the Indian Ocean Commission in Mauritius were consulted during the process. In addition to administrations and other key stakeholders in Antananarivo, the capital, the fishing ports of Mahajanga and Antsiranana were visited.

Photos: Gilles Hosch

Madagascar has now joined two other South West Indian Ocean (SWIO) region countries that have developed their full first drafts in 2007, namely Mozambique and Seychelles. This will further the integration of national efforts to combat and eliminate IUU fishing on a regional scale.

Top: Coastal fishing patrol boat in Mahajanga. Bottom: Sorting high value shrimp in Mahajanga fish docks.

differences are more marked in the SWIO region, where top and bottom HDI-list States share EEZ boundaries.

The sharing of information, cross-border collaboration and nationally integrated approaches to tackle IUU fishing are also often weak or lacking. In recent years, encouraging initiatives have been taken, e.g. the operational VMS data-sharing protocol between South Africa and Mozambique.

High level corruption and non-transparency concerns affect certain SADC countries more than others. IUU fishing incidence, as defined in the IPOA-IUU, is largely a function of governance in general, and the MCS systems in place. The better governments score on the quality of governance, and the more developed and effective MCS systems are, the lower the incidence of IUU fishing. This gives rise to large discrepancies in IUU incidence across the SADC maritime region.

While the IPOA-IUU does address governance and MCS issues, its reach and scope goes well beyond these two critical elements. A comprehensive and well-elaborated NPOA-IUU will address other crucial issues, such as flag and port State commitments, information sharing and collaborative links with neighbours, market related measures to combat IUU fishing, and actions to be taken through Regional Fishery Bodies (notably harmonisation efforts of policies and legal frameworks).

The regional dimension

Effectively combating IUU fishing, and eventually eliminating it, will not occur anywhere in the world unless regions unite in their stand against IUU fishing. Fraudsters are based on highly mobile entities; and the companies behind them are often set up in such opaque ways that tracking down beneficiary owners of illegal fishing activities is a task not many governments are able to handle.

When illegal operations in one area become difficult, fraudsters simply hop borders and continue to operate illegally in neighbouring waters – or sometimes simply go further offshore.

The RFMOs have an essential role to play in the quest to stop illegal fishing. While many provisions

Eliminating IUU fishing will not occur anywhere in the world unless regions unite.

inherent to the IPOA-IUU, directed at RFMOs, are in fact provided for through resolutions and recommendations passed during RFMO general assembly meetings, such recommendations are generally phrased in very loose terms. Implementation, often left to the discretion of Contracting and Cooperating Parties, is generally where the real challenges arise.

There is a clear need for RFMOs to monitor the implementation of resolutions and achieved results at Contracting and Cooperating Parties level, and to record the lack of implementation, or implementation failures.

This implies and includes the following:

- Providing an exhaustive vessel list;
- Developing harmonised legal frameworks to set highly deterrent penalties;
- Exchanging information about illegal operators and their companies;
- Closing regional ports to identified IUU operators;
- Exchanging on a regional scale nationally generated information on fisheries operations and their operators; and
- Refusing to issue licenses to major fraudsters identified and denounced by neighboring countries.

Conclusion

Today, the IPOA-IUU is the most complete international instrument available to tackle the threat that IUU fishing represents. Countries that have developed an NPOA-IUU have analysed their situations, and have resolved to tackle IUU fishing in an integrated, comprehensive and transparent manner.

In some cases, it is apparent that countries have developed approaches consistent with the IPOA-IUU, notably through the drafting and adoption of legal frameworks that incorporate key measures inherent to the Compliance Agreement and the UN Fish Stocks Agreement – even though they might not have developed an NPOA-IUU as yet.

Developing an NPOA-IUU in these situations will ensure that the entire range of options to combat IUU fishing have been considered, and developed where necessary.

This article has been derived from the Stop Illegal Fishing IPOA-IUU Implementation Status Report for the SADC Region that was produced in late 2007 by Gilles Hosch. The full report and annexes are available to download at http://www.stopillegalfishing.com/documents.html . See page 84 for additional information.

By Sandy Davies and Per Erik Bergh, NFDS Africa

Robust national monitoring, control and surveillance (MCS) systems and strong regional cooperation on MCS are essential elements in the fight to stop IUU fishing.

Monitoring, Control and Surveillance from Policy to Implementation

MCS systems are established and operated to perform various tasks. They gather information on the fishery and fishers that can help in the setting and monitoring of the 'rules of the fishery'. This includes information on fishing vessels and their fishing gear, the type and amount of the catch, where the fish were caught and what happens to the fish once it has been caught. Through this information and surveillance of the fishing vessels, those working within the MCS system hope to deter any fishers or companies from violating the rules of the fishery and in cases where they still do so to catch and punish them.

There are many different types of MCS systems that range from the sophisticated to the simple and that vary from a military type enforcement approach through to a community driven compliance approach. The organisation that is responsible for setting up and maintaining the MCS system is one of the key players in implementing fishery management plans and they are usually a Section, Division or Directorate within the Ministry responsible for fisheries. One of their jobs is to establish and maintain links nationally, regionally and possibly internationally to others engaged in the fishery and, in particular, the aspect of ensuring the legality of fishing operations.

BOX 1: DEFINITION OF MCS

There are various definitions of MCS. This one by the FAO is commonly used when a formal definition is required:

'MONITORING' the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, by-catch, discards and area of operations. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.

'CONTROL' involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub-regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented.

'SURVEILLANCE' involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access and management measures are observed. This activity is critical to ensure that resources are not over-exploited, poaching is minimised and management arrangements are implemented

Within the SADC region the capacity for MCS has generally improved over the last decade. Almost all of the coastal States have a firm foundation of relatively new legislation on fisheries and many countries now have MCS human resources, including inspectors and observers, that have basic training in monitoring and surveillance. The quality of the information systems to support MCS activities have also improved and in some cases include integrated and functioning vessel monitoring systems (VMS). The associated hardware to support MCS (such as patrol vessels and planes) have in some cases improved, although the neglect of equipment and the lack of funds to maintain it have often hampered this hardware really becoming an asset to MCS operations.

Establishing an MCS system

MCS systems can be developed for either specific fisheries or a group of interacting fisheries. Different fishery types require different MCS responses. For example, with an industrial fishery the emphasis is more likely to be on enforcement than compliance, and involve a range of more traditional components such as vessel registers, observer programmes, VMS, and patrol vessels and aircrafts. The monitoring requirements are generally simpler than in artisanal fisheries as vessel logbooks can be implemented, VMS and observers can be placed on larger vessels,

Random checks are an important part of a sampling strategy.

and the landing of fish can be directed through certain ports that facilitate landings monitoring.

In an artisanal or small scale fishery the combination of large numbers of fishers and landing places, mixed gears and migrant fishers makes MCS an often complex task. The combined approach of community based management and the more traditional use of government data collectors, frame surveys and some enforcement personnel are often required.

People are at the core of any MCS organisation. No technology, strategy or plan will be able to replace the demand for qualified and reliable personnel. A realistic evaluation of the personnel available in relation to: the MCS needs, the financial resources, the time available, and the feasibility for long and short-term training is an important step in planning for MCS activities. Training programmes and education are usually required to be sure that personnel can achieve the required duties.

Hardware is another key consideration and the choices are numerous with different types of equipment on the market. When considering new hardware it is always worthwhile asking how much it is necessary or sensible to spend. For example, although it is well acknowledged that larger patrol vessels have a strong deterrence effect on commercial fishing operations other more simple and less costly options do exist: a VMS could be implemented with the main cost of the system being borne by the industry; a simple observer compliance and data collection programme could be established to compensate for the weaknesses of VMS; and fishing vessels could be channelled to certain harbours or checkpoints before leaving the fishing zones for control purposes. This type of system would be able to address a wide combination of management measures on an already licensed fleet.

Fishers operate in an environment rigorously controlled by the authority, yet an environment that is isolated and without witnesses or law enforcement units present, so temptation to break the law is never far away. One way to reduce this temptation lies in balancing the enforcement and compliance aspects of the MCS system, to encourage an environment where maximum compliance from fishers occurs and to use enforcement in areas where this is not adequate. Fisher compliance, called **voluntary compliance**, has a role to play in all MCS systems and it is considered to be one of the positive outputs of adopting a participatory approach. Fishers are more inclined to obey rules that they feel are legitimate, rightful, justifiable and reasonable. Creating this sense of legitimacy towards the management strategy can

reduce MCS cost considerably. However, voluntary compliance is more of a process than an end point; it tends to take longer to nurture and for results to become apparent. This may not be fast enough if violations are critical to the sustainability of the stock, in which case, the best option may be immediate enforcement action with a longer term view to increasing voluntary compliance.

Fisheries are managed by managing the fishers not the fish, that is to say that MCS relates to the fishers and fishing related activities and not to the fish stock. This includes routine fishery operations in **four key dimensions**, i.e. before fishing, during fishing, during landing of the fish and post landings. Considering these dimensions help to gain the optimal level of monitoring and surveillance at the least cost. For example, if all the MCS effort is placed on the 'during fishing' dimension, this would not facilitate any crosschecking or validation across these dimensions and ultimately not provide the best solution.

The use of **targeted MCS** is also a useful consideration – random checks are an important part of a sampling strategy, but for surveillance targeting known or suspected offenders can be more effective. This targeting of routine offenders increases detections and is a visible deterrent to potential offenders.

Cost-effectiveness is a primary consideration for all MCS systems and a comparison between the costs and benefits from different MCS options is necessary. The MCS strategy should provide guidelines on the financial resources available and generally, if the cost of the MCS system exceeds the benefits, less costly options should be explored. MCS plans can be used to justify budget discussions – but this should not be the other way around.

Finally, assessing **MCS system performance** has no single defined methodology but by calculating costs and compliance levels the trends and problem areas become apparent and provide a basis for planning. Some general questions that can be asked during the process are given in Box 2.

BOX 2: QUESTIONS TO ASK WHEN MEASURING MCS SYSTEM PERFORMANCE

- What are the objectives of compliance in the different fisheries and are these being achieved?
- What were the expectations of the system; have these been defined?
- Are all the MCS strategies being implemented?
- Have there been changes in the fishing fleet or their habits?
- Is there new technology or other means that can improve the MCS system?
- Do the fishers accept and comply with the fisheries legislation (if not find out why)?
- Are the MCS personnel performing as expected (if not find out why)?

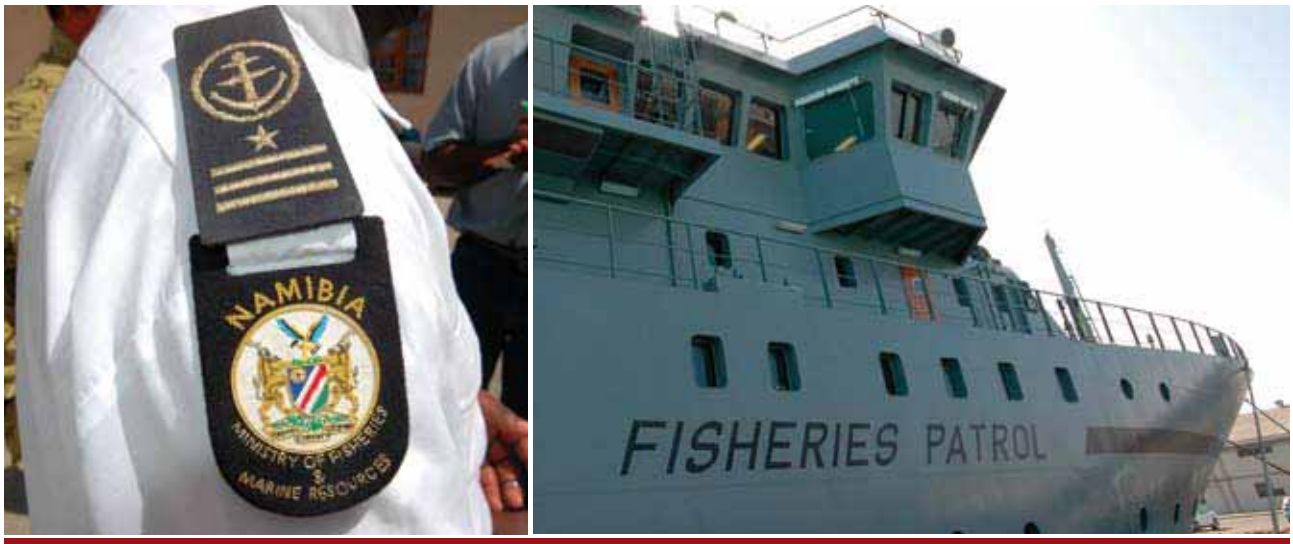
Future outlook

Over the last decade, the MCS manager on the ground has seen little change in the practical options available for combating illegal fishing. What has changed is the approach to MCS: it is now viewed as an interlinked and integrated element of the fishery management system. A more analytical and integrated approach is being adopted in some countries.

Another area of change for the MCS manager has been in the growth of the regional and international arena, and the need for engagement in a far wider and more far reaching sphere of discussions than previously. For example, the range of international fisheries instruments that now define the role that States and Regional Fisheries Management Organisations (RFMOs) should or could play in effectively combating illegal fishing has increased in the last decade. One of the most recent is the, now voluntary Model Scheme on Port State Measures and discussions are a foot on the possibility of future trade certification programmes for 'legal fish'.

International and regional cooperation in MCS may hold one of the solutions to this ever increasing pressure on national MCS systems. Fish stocks, fishers, fishing operations and fisheries trade are either by nature or by impact trans-boundary. Due to this, national fisheries policies and MCS strategies cannot be formulated in isolation. Regional fisheries management approaches and cooperation provide a framework for cooperation among countries in facing the major challenges of tackling illegal, unreported and unregulated fishing and developing MCS approaches that can benefit each other.

In summary although the MCS systems in the SADC region have improved over the last decade it is not a time for complacency; as the MCS systems improve so do the methods of the illegal fisher. Many MCS systems within the SADC coastal States can improve significantly through greater knowledge, improved information exchange and a more analytical approach to MCS.



Left: People are at the core of any MCS organisation. RIght: Larger patrol vessels have a strong deterrence effect.

BOX 3: TACKLING REGIONAL COLLABORATION IN MCS – THE WESTERN PACIFIC EXAMPLE

The shared tuna fishery of the Western Pacific is managed under the umbrellas of the Forum Fishery Agency (FFA) and the Western Central Pacific Fisheries Commission (WCPFC). The FFA provides guidance on management of the fishery within the national waters of the 17 FFA island State members, while the WCPFC provides the management framework for the high seas waters. The catches of tuna within this overall Western Pacific area are estimated at around 2.2 million tonnes per year. These are caught by vessels from a registered vessel list of over 1 000 licensed vessels that are flagged by nearly 30 countries. This magnitude of fishing over such a large area provides a challenge for national MCS systems and opens the door for regional cooperation through the platform of the FFA.

In response to this, the FFA countries have chosen some innovative ways to ensure that fisheries in the Western Pacific operate by the rules, and that the tuna fishery within their Exclusive Economic Zones (EEZs) and the adjacent high seas waters are legal. The concept behind the regional monitoring and compliance programme is to support and strengthen national MCS operations and to ensure benefits from the regional cooperation in order to strengthen the successful implementation of national tuna fishery management plans. There is also an overlap and synergy between strong MCS systems applied nationally within the respective EEZs of the FFA countries and the impact that this has on the compliance within the WCPFC convention area (high seas surrounding the islands).

Legal and technical elements of the FFA MCS system are applied nationally or regionally and include a harmonised approach to minimum terms and conditions for foreign vessels such as: a vessel register for these vessels; a Treaty on cooperation in fisheries surveillance and law enforcement (the Niue Treaty); and a Lacey Act-style arrangement allowing regional cooperation relating to penalties for fish caught illegally in the EEZ of another FFA member. Regional collaboration on port State enforcement, harmonisation of national laws, observer programmes, aerial surveillance, maritime surveillance and a vessel monitoring system are also essential elements of the system.

The FFA is continually striving to improve their MCS capacity and capability. Their most recent efforts are towards a regional fishery MCS strategy and a review of the national VMS that make up the FFA VMS. The future approach of the FFA is to base enhanced regional compliance collaboration on the findings of analytical studies into compliance and the associated risks to non-compliance. This approach is becoming more common in fisheries MCS, with the realisation that targeting high risk areas (such as specific fleets or fish stocks) increases the chances of successful fishery management.

The FFA, like some member States of SADC, are looking into a regional MCS support centre as a future move to facilitate the sharing and management of MCS information and to support regional MCS strategies. The SADC region, although different in its fishery make-up, may benefit from following closely the progress and lessons learned by the FFA that cover the core areas of information management, coordination, capability, capacity, legislation and governance.

The Stop Illegal Fishing Programme wishes to thank the Pacific Islands FFA for contributing a paper on their role in fisheries MCS in the region – this paper is available in full on www.stopillegalfishing.com.

By Steve Trent, Environmental Justice Foundation (EJF)

The Environmental Justice Foundation (EJF) argues for action against Flags and Ports of Non-Compliance regarded as "the scourge of today's maritime world".

Flagging a Warning

Illegal, Unreported and Unregulated fishing operations (IUU) – often called 'pirate fishing' – are undermining attempts at sustainable fisheries management, causing extensive damage to the marine environment and jeopardising the food security and livelihoods of poor coastal communities.

African waters support some of the world's most productive marine ecosystems, upon which millions of people depend for food and income. Yet most countries in the SADC region lack the resources to effectively police their territorial waters (Exclusive Economic Zones, or EEZs), which extend 200 miles out to sea and are increasingly targeted by illegal fishing fleets.

Vessels that fish illegally do so primarily to minimise the costs associated with legal fishing methods, exploiting a variety of loopholes that are the result of weak national and international legal frameworks and poor or non-existent enforcement. These conditions allow unscrupulous businesses to maximise catch and minimise cost.

This article examines two such loopholes: the use of Flags of Non-Compliance (FONC), where the flag State fails to exercise effective control over its vessels, and Ports of Non-Compliance (PONC), where a port State is either unable or unwilling to exercise reasonable measures and controls to combat IUU activities.

FONC and PONC are key elements fueling pirate fishing operations. Effective action against them would be both highly beneficial and cost-effective in combating IUU fishing.

Flags Of Non-Compliance (FONC)

Flags of Non-Compliance (also known as Flags of Convenience) have been described by Franz Fischler, former EU Commissioner for Fisheries, as "the scourge of today's maritime world." They represent one of the simplest and most common ways in which unscrupulous fishing operations can circumvent management and conservation measures, and avoid penalties for IUU fishing.

Under international law, the country whose flag a vessel flies is responsible for regulating and controlling its activities. Yet certain countries allow any vessel, regardless of nationality, to fly their flag, charging nominal fees and making no pretence at responsible action to regulate the flagged ships, and ignoring any offences that are committed.

Generally, a FONC country has a so-called 'open registry', making a business from granting its flags to vessels (including fishing vessels) that are owned by nationals from other States. However, it can be argued that the definition of a FONC country also includes any country granting authorisation to a vessel to fly its flag as well as authorisation to fish, if that country lacks the resources (or the intent) to monitor and control the vessels flying its flag.

Unscrupulous ship-owners have long used Flags of Non-Compliance to evade regulations, such as tax and safety standards. FONC registration greatly reduces operating costs for vessel owners, as they do not have to pay for licenses and vessel monitoring systems, and can avoid regulations and laws requiring insurance, labour law compliance, crew training and the purchase of safety gear.

Crew members employed on FONC vessels are often subject to abuses and appalling working conditions, including very low wages, inadequate food and water[1] and the absence of any meaningful safety procedures.

FONC are notoriously easy, quick and cheap to acquire, obtainable over the Internet for just a few hundred dollars. IUU vessels can therefore re-flag and change names several times in a season to confuse management and surveillance authorities, a practice known as 'flag hopping' [2].

Backed by shell companies, joint-ventures and hidden owners, FONC severely constrain efforts to combat IUU fishing, as they make it extremely difficult to locate and penalise the real owners of vessels that fish illegally[3]. As a result, FONC fishing vessels have proliferated over the past 20 years.

As fishing fleets have expanded, and as marine resources have become scarcer, FONC have increasingly been used as a means of avoiding measures designed to manage fisheries and conserve stocks. In international waters, measures to regulate fishing only apply to countries that are members

Unscrupulous ship-owners have long used Flags of Non-Compliance to evade regulations such as tax and safety standards.

of Regional Fisheries Management Organisations (RFMOs). Therefore, if a vessel re-flags to a State that is not a party to these agreements – and often FONC countries are not members of RFMOs or other fishing agreements – then it can fish with total disregard for agreed management measures.

Further complicating the situation, however, is the fact that in recent years many FONC countries have become members of RFMOs, and do, for a while and up to a point, abide by regulations. FONC and IUU vessels are therefore not necessarily the same thing, but the proven culpability of many FONC vessels in IUU present a compelling argument for an end to their use by fishing vessels.

Ports Of Non-Compliance (PONC)

Most fishing vessels must at some point visit a port to land their catch, refuel and take on provisions, and IUU vessels are no exception. Regulating access to port facilities States can therefore be a highly effective way of controlling IUU fishing. However, certain ports fail to do so, and poor port controls are a weak link exploited by the IUU fishing industry to gain access to the marketplace, and to ensure logistical support for their vessels.

The existence of such Ports of Non-Compliance (also known as Ports of Convenience) is seen by many as one of the main factors facilitating IUU fishing, despite the fact that the full and proactive application of port controls does not necessarily require substantial additional resources.

PONC are generally accepted to exist where the port State is unwilling or unable to exercise measures to combat IUU fishing activities, including but not limited to inspections to detect IUU-caught fish, and prohibitions on landing and trans-shipment of illegal catches.

In some notable cases, PONC are also Free Trade Ports (or Free Economic Zones). These zones are significant in regulating IUU fishing activities, as they usually are special customs areas with favourable customs regulations, or no customs duties and controls for landings or trans-shipment. Illegally caught fish can therefore often easily enter the market, or be shipped onwards undetected by the flag or port State.

The use of FONC and PONC in IUU fishing – the case of Guinea

The role and need to address both PONC and FONC in IUU fishing can be demonstrated by examining the investigations of the UK-based NGO the Environmental Justice Foundation (EJF) in Guinea[4].

Guinea loses an estimated US$110 million every year to IUU activities, the worst in Africa[5]. Fishing is a crucial economic and social activity in the country, providing 70 000 direct and indirect jobs, primarily in the artisanal sector. EJF has been working in Guinea since 2004, documenting the extent and impacts of IUU fishing in the country.

Extensive investigations and interviews with local communities and enforcement authorities presented a picture of a widespread, and growing, problem of IUU fishing. Foreign fishing vessels were engaging in a variety of illegal practices, such as fishing without licenses, using illegal and destructive fishing gear, and entering the 12-mile zone reserved for artisanal fishers.

As a result, local communities reported a decrease in both the size of catches and fish, and serious concerns about their livelihoods and food security. In some cases, fishers had lost all their fishing gear when it had been run over by illegal vessels. In at least one case, local fishers were killed when their canoe was hit and sunk by a trawler deliberately fishing in the artisanal zone.

EJF partnered with Greenpeace International to investigate the extent of IUU fishing further off the coast. They observed 104 foreign fishing vessels, over half of which (53) were either engaged in, or linked to, IUU fishing activities. Many of the illegal activities observed were part of operations designed to launder the illegal catches into the legal market. They included: the illegal trans-shipping of fish between vessels at sea (banned by Guinean Law), the repacking of fish caught by an IUU vessel into boxes stamped with the name of a legal boat, and more than one vessel purporting to be a single (legal) ship.

Fishing vessels engaged in IUU activities were flagged to a variety of countries, including those with FONC open registries, such as Honduras and Malta. Several other vessels deliberately hid their identification, or appeared to have no registry at all. However, the IUU fleet was dominated by Chinese flagged vessels.

Although China is not an open registry, the involvement of Chinese vessels in IUU fishing activities has been globally reported. China clearly lacks the resources, and possibly the will, to monitor and control its fishing vessels, and can therefore be considered a FONC country. While some of the Chinese vessels were legally licensed to fish, many more were not – and both licensed and non-licensed vessels were observed engaging in IUU operations.

Many of the fishing vessels observed off the coast of Guinea rarely, if ever, come into harbour. Key to their operations are Refrigerated Supply Vessels, commonly known as Reefers.

Pirate fishing vessels trans-ship their catches to reefers, which will ply back and forth between the fishing ground and a port where illegal fish can be unloaded. On the return trip, reefers refuel, provide supplies and maintenance, and even rotate the crews of IUU fishing vessels at sea.

Photo: Susan Schulman

Local communities are concerned about their food security.

EJF observed seven reefers in Guinean waters; the majority of these were flagged to FONC countries, and all were engaged in illegally trans-shipping catches at sea. One such reefer was BINAR 4, registered to FONC Panama, and observed illegally trans-shipping fish from four Chinese flagged fishing vessels. All four were legally licensed to fish in Guinean waters, but again, trans-shipment at sea is prohibited under Guinean law.

When the vessels registered the presence of EJF/ Greenpeace, they separated – the fishing vessels heading back towards the Guinean fishing grounds, while the reefer was followed by EJF and Greenpeace to Las Palmas de Gran Canaria, located in Spain's Canary Islands.

Las Palmas probably serves as the largest point of entry for fish from West Africa coming into Europe, acting as a gateway through which illegally caught fish can enter the huge European market. The port's status as a Free Economic Zone enables it to have favourable customs regulations and weaker control over the trans-shipment of goods.

Abuse of this status by fisheries companies has resulted in Las Palmas being identified as the most notorious Port of Non-Compliance in Europe, providing services to IUU (and legal) fishing fleets operating off the coast of West Africa, and hosting a number of companies that operate IUU vessels. Las Palmas currently has only five port inspectors – far too few to effectively police the approximately 360 000[6] tonnes of fish passing through the port annually.

IUU fish are 'laundered' into the legal market, first between legal and illegal fishing (including FONC) vessels at sea, during trans-shipment onto reefers, and then for a third time in Las Palmas. Of the 53 vessels EJF/Greenpeace documented as engaged in, or linked to, IUU fishing activities in Guinea, port authority records[7] show that 17 had visited Las Palmas to unload their catches, make repairs and take on fresh supplies.

Some of these IUU vessels are reefers that had entered the port on multiple occasions, further illustrating the significance of PONC in illegal fishing. Further EJF investigations in the Canaries and the UK led to the final step in the supply chain – the sale of seafood in the European marketplace, linking it back to West Africa, via Las Palmas.

The culpability of both FONC and PONC in IUU fishing can be further witnessed by an investigation by Marie-Hélène Aubert, French MEP and Rapporteur for the Draft Report on the EU action plan against IUU fishing[8].

A reefer was spotted in Las Palmas harbour; it had the name *Lian Run* painted on the bows; embossed behind the painted name *Lian Run* was another, the *Sierra Grana*. The port authorities had no record of a vessel under either name, and claimed the vessel was called the *Lian Run 21*, even though this name did not appear in the port database.

A later search of the vessel's displayed International Maritime Organisation (IMO) number gave a fourth name, the *Timanfaya*[9]. The ship was flying the flag of Panama, and was unloading fish that had been caught by 15 different vessels[10], among them some that EJF and Greenpeace had observed fishing illegally. The captain presented the MEP's delegation with a declaration, saying the fish had been legally caught in Guinea; however, the delegation included a Guinean fisheries inspector who claimed that she knew nothing of the *Lian Run*[11].

Reasons and action to counter PONC and FONC

The United Nations International Plan of Action on IUU fishing (IPOA-IUU) has identified the need to address both Ports and Flags of Non-Compliance as paramount in efforts to combat IUU fishing. It suggests further strengthening compliance of international fishing regulations by a Treaty on Port State Measures to control IUU fishing.

The European Union, both a major fishing body and the largest seafood market in the world, has identified effective regulatory measures to eliminate both PONC and FONC as vital in efforts to address its role in IUU fishing globally. In its recent Proposal for a Council Regulation establishing a community system to prevent, deter, and eliminate illegal, unreported and unregulated fishing, the European Commission (EC) has outlined comprehensive action on port controls, as well as a system that not only blacklists IUU vessels, but also non-cooperating third States.

For SADC nations, the argument to introduce strong and effective measures to address both PONC and FONC is equally compelling. Lack of resources hampers the ability of SADC nations to address the widespread environmental, social and economic impacts of IUU fishing; therefore measures that not only effectively address these impacts, and are financially feasible, are vital.

Effective Port Controls and the exclusion of FONC vessels from SADC ports represents one of the most cost-effective strategies to combat IUU fishing.

As well as representing value-for-money, action on PONC and FONC can be potentially very effective. The exploitation of both PONC and FONC by IUU vessels is purely economic. IUU vessels save operating costs when they are able to avoid the legal costs of fishing, and are assured a market for their illegal catches. Removing this economic incentive will act as a deterrent for IUU operators; for example, there will be a radius from a PONC from which it will still be profitable to fish.

Pirate fishermen would not operate without a market for their catch. Therefore, a regional SADC agreement to reinforce measures such as improved MCS and the control of landings will eventually increase the operating costs of IUU vessels to the point where it is no longer profitable.

FONC also accrue large financial benefits to operators, as they do not pay for licenses, vessel monitoring systems[12], and avoid regulations and laws. An agreement by SADC nations to refuse entry to vessels identified as registered to FONC will remove these financial advantages.

Fisheries management capacity varies widely across the SADC region. Although some common regional strategies need to be developed, what is appropriate and applicable for one country may not be appropriate for another. That said, there are common actions that every SADC nation should take, in order to effectively combat IUU fishing, and particularly the roles of PONC and FONC.

For more information, contact Steve.trent@ejfoundation.org. Footnote details can be found on page 84.

By The Environmental Justice Foundation (EJF)

Tracking illegally caught fish from West Africa into the European Market.

From Ship to Shore

A: Fish are caught by foreign flagged vessels off the West African coast. Many fly Flags of Non-Compliance (FONC), either flagged to open registries, or countries that lack the resources (or the intent) to monitor and control the vessels flying its flag. © EJF

B: IUU operators ignore attempts to sustainably manage fisheries, and often use illegal and destructive fishing methods. A large proportion of FONC catches in West Africa are considered valueless 'by-catch', which is dumped back over the side dead – lost to the marine ecosystem, local fishermen, and national income. © Greenpeace/Gleizes

C: Many FONC vessels are rarely inspected by the relevant authorities. EJF discovered extremely unsanitary handling and storage facilities on fishing vessels in West Africa, despite supposedly meeting strict EU hygiene standards. © EJF

D: IUU vessels often enter into the 12-mile zone reserved for local artisanal fishers, with serious consequences for food security and livelihoods. Collisions with IUU vessels have led to the loss of fishing gear, and in some extreme cases, lives. © EJF

E: Many vessels deliberately hide name, flag and identification numbers. © Greenpeace/Gleizes

F&G: Unlicensed vessels often try to pass themselves off as licensed vessels owned by the same company – in this case one vessel (F), the Lian Run 24, did have a license to fish off Guinea. Another, (G) was first observed as the Lian Run 13, and was not licensed. A few days later the 13 had been rubbed out, and Lian Run 24 painted on the bridge. Both © EJF

H: Once catches are on board illegal vessels will package fish under a legal boat's name. Legal vessels supply illegal vessels with boxes stamped with the vessel's name, at sea and away from scrutiny. © EJF

This is the first stage in a laundering process that takes advantage of both FONC and PONC and extends right to the end market.

S: Through a supply chain leading from IUU vessels in African waters through to the marketplaces of the world, IUU fish is likely ending up on our plates. FONC and PONC provide illegal operators both with the perfect cover and easy entry point for their illicit catches. Effective measures to eliminate FONC and PONC present a cost-effective and efficient strategy to combat IUU fishing in the SADC region. © EJF

P,Q&R: Now completely laundered into the legitimate market, and almost impossible to trace, IUU fish is sold on to unsuspecting customers. All © EJF

M: Las Palmas is perhaps the most notorious Port of Non-Compliance in the world. Designated a 'Free Zone', with only five fishery inspectors, many catches are never inspected. As well as serving as a 'soft' entry point, Las Palmas also provides all the logistics needed to maintain the West African IUU fishing fleets. © EJF

N&O: Once reefers enter a PONC, the IUU caught fish is unloaded into port facilities, often owned by multinational fishing companies. N: © EJF O: © Greenpeace

The IUU fish is now laundered a third time, as catches from multiple vessels from both compliant and FONC registries are mixed together. Once landed, fish are within the marketplace, and are often subject to few, if any, further controls on legality.

I&J: IUU fishing vessels illegally trans-ship their catches to refrigerated reefers, many of which are flagged to FONC registries. These ships ply back and forth between Ports of Non-Compliance (PONC) and fishing grounds, taking pirate fish in one direction and bringing fuel, supplies and crews in the other. In this way IUU fishing vessels can stay at sea for long periods of time, sometimes for years. Both © EJF

K&L: Fishing vessels CNFC 24 and Jui Yuan 812 trans-shipping to a FONC reefer. Both these vessels were licensed to fish in Guinean waters, but trans-shipping at sea is illegal under Guinean law and therefore both engaged in IUU fishing practices. Both © Greenpeace/Gleizes

At this point the IUU fish go through the second stage of the laundering process, as legal and illegal catches are mixed together.

By Judith Swan, Food and Agriculture Organisation of the UN (FAO)

Examining the value, implementation and challenges of port State measures for the Southern African region.

Port State Measures

International developments and challenges

The value of port State measures

In recent years, international recognition of the value of port State measures in combating Illegal, Unreported and Unregulated (IUU) fishing has been intensifying. All fish that has been harvested at sea must be landed, and a coordinated system of controls at port – including requirements for vessels, information systems, inspections and training – increasingly can be used to detect and enforce against IUU caught fish.

There is also an important cost-benefit consideration: the use of port State controls does not necessarily entail significant resources, and they represent a promising avenue for implementation by developing States. Operationally, the measures can be integrated into a wider system of port controls extending to areas such as health, safety and security.

Port State measures can be linked with other tools used to effectively combat IUU fishing. These include trade and internationally agreed market related measures, such as traceability, flag State responsibility, vessel monitoring systems (VMS), authorised and IUU vessel lists, and database and information systems. In fact, one combination that is rapidly gaining recognition as a formidable weapon in the battle against IUU fishing is port and market related measures.

Port State measures can also result in a compelling array of enforcement tools by the port State, flag State and/or third States, including:

- Denial of port access altogether;
- Prohibiting the landing, trans-shipment and/or processing of catch;
- Seizure and forfeiture of catch;
- Prohibiting the use of port services, such as refuelling, resupplying and repairs;
- Prohibiting the sale, trade, purchase, export or import of IUU caught fish;
- Initiating criminal, civil or administrative proceedings under national law; and
- Cooperating with the flag State and/or members of a Regional Fisheries Management Organisation (RFMO) on enforcement and/or deterrence.

Since fish harvested at sea must be landed, port controls can help detect and enforce against IUU caught fish.

Development of port State measures to combat IUU fishing

Port State measures have been increasingly developed in international fisheries instruments since 1982, but the momentum has expanded significantly since 1995. The instruments have tended to focus on the role of the port States individually or through RFMOs.

Photo: Peter Flewwelling

Not all States are implementing port State measures.

The right and duty of the port State to take measures to promote the effectiveness, conservation and management measures were underlined in the 1995 UN Fish Stocks Agreement. It also referred to actions that port States may take, including inspecting documents, fishing gear and catch onboard fishing vessels, and prohibiting landings and trans-shipments where the catch was taken in a manner that undermines high seas conservation and management measures.

The role of the port State was expanded in the 2001 FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). This document contains guidelines for allowing port access, information to be collected from fishing vessels and a process for actions to be taken where IUU fishing is suspected.

States are also encouraged to establish and publicise a national strategy and procedures for port State control of vessels involved in fishing and related activities, including training, and to consider capacity building needs.

The FAO Committee on Fisheries (COFI) endorsed a voluntary instrument setting out minimum standards for port State measures in 2005. The 2005 FAO Model Scheme on Port State Measures to Combat IUU Fishing (FAO Model Scheme) built upon the preceding international instruments, and has provided the basis for the development of national and regional measures.

Accordingly, a Draft Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing was developed by a FAO Expert Consultation in September 2007. It will be reviewed by a FAO Technical Consultation in June 2008, and referred to the 28th Session of COFI in March 2009.

The Draft Agreement sets out minimum standards applicable to vessels used for fishing or fishing related activities that are not flying the flag of the port State. The framework of the Draft Agreement includes requirements for vessels prior to entry into port, use of ports, inspections and follow-up actions and the role of flag States. It also addresses the following related areas: general provisions, requirements of developing States, dispute settlement, and non-parties.

Significantly, there are five detailed Annexes to the Draft Agreement. They will serve to facilitate harmonisation and provide a basis for the following measures and actions:

- Information to be provided in advance by vessels;
- Port State inspection procedures;
- Report of the results of the inspection;
- Information systems on port State inspections; and
- Guidelines for the training of inspectors.

The Draft Agreement provides minimum standards for port State measures, and, in order to promote effective action at an early time, some organisations and countries have already initiated implementation activities.

Some challenges

However, not all States are currently prepared to implement port State measures. One reason is based on the fact that industrial IUU fishing is often highly organised, driven by high stakes and high profits. It is an activity that falls in the realm of environmental crime. In some cases, IUU interests may offer economic or other incentives or disincentives to a port State to avoid the implementation of controls. In others, the necessary capacity, policy, law and institutional arrangements are not in place.

This has resulted in many IUU fishing vessels seeking to offload their catch and re-supply in ports that do not have or do not implement controls, sometimes referred to as 'ports of convenience'. As noted, there are different reasons why a State may not exercise controls, and the need to agree on a definition of

'ports of convenience' was underscored at the UN Fish Stocks Review Conference in May 2006.

Another major problem occurs where vessels identified by a RFMO as having engaged in IUU fishing are not allowed to land their catches in the ports of the member States, and the services they are allowed to receive are limited. This has often proved to be ineffective in practice. The vessels simply trans-ship their catches to transport vessels at sea before they arrive in port and therefore have no need to land their catches. The ban on services has also proved difficult to enforce properly once a vessel is in port, and has consequently been ineffective in such situations.

One solution is to prohibit entry into port of vessels that have been identified as engaged in or supporting IUU fisheries. This increases the operating costs of the IUU fishing vessels, as they sail further to land in port and take on supplies.

Despite such challenges, the way forward has become clearer as countries continue to progressively strengthen the role of the port State through the development and implementation of a legally binding instrument.

The pivotal role of the port State is being increasingly realised in relation to linkages with other IPOA-IUU tools, the potential for regional cooperation and harmonisation, and the development of human capacity.

To strengthen human capacity, FAO has initiated a series of regional workshops on port State measures to combat IUU fishing. As part of this series, FAO coordinated a workshop ('the FAO Workshop') for Southern African countries, held in Cape Town in January 2008.

Supported by the UK's Department for International Development (DFID), the primary objective of the workshop was to develop national capacity and to promote bilateral, sub-regional and/or regional coordination. Countries would then be better placed to strengthen and harmonise port State measures and, as a result, implement the relevant IPOA-IUU tools and the FAO Model Scheme. They would also be able to contribute to the development of a legally binding instrument on port State measures.

Southern African developments and challenges

Background

The coastal States in the Southern African region are responsible for managing and monitoring some 7 million square kilometres of the South East Atlantic and South West Indian Oceans. The cost of effectively undertaking this task is prohibitive.

Increasingly, countries are recognising the significant value of port State measures as a principle monitoring, control and surveillance (MCS) tool to curb the trade in, and the landing and trans-shipment of, IUU caught fish. Foreign fishing vessels can be authorised to call at some 20 ports in SADC member countries. It is estimated that in excess of 2 500 foreign fishing vessels visit ports of SADC countries annually.

Some Challenges

Although SADC port States have broadly promulgated legislation that could give effect to port State measures, these States continue to face a number of daunting challenges in the day-to-day control of IUU caught fish that can be landed in their ports.

The challenges faced by countries in attempting to implement effective port State measures include:

- Too few and poorly trained fishery inspectors who did not have any training in port State measures procedures;
- An inability to track foreign fishing vessel activity once authorised to enter a SADC port State's Exclusive Economic Zone (EEZ);
- Poor or no coordination between government departments, including those responsible for fisheries, port authorities and trade; and
- A lack of financial resources.

It was noted by the participants at the FAO Workshop that all SADC port States had reaffirmed their commitment to implement port State measures and had considered a number of possible interventions that could support their implementation. These interventions included the:

- Coordination of activities intended to curb IUU activity;
- Sharing of resources such as vessels;
- Sharing of skills and technology;
- Alignment of SADC laws and policies aimed at fighting IUU fishing and related activity, with a particular focus on implementing port State measures in a harmonised way; and
- Training of fishery inspectors on port State measures.

However, in order to undertake these interventions, SADC port States would require financial support.

Port State measures can prohibit the landing of catches.

At a regional level, differing regulatory systems and policies dealing with fisheries management and IUU fishing and related activities do not currently allow for the effective sharing of information, the coordination of MCS activities and the alignment of laws, particularly sanctions.

However, States that are members of RFMOs are obligated to implement relevant port State measures adopted by these organisations. In this way, the harmonisation of port State measures would be achieved through such mechanisms as regional schemes, port inspections, prohibition of landings and trans-shipment at sea, vessel lists, VMS, catch documentation schemes and information networks.

At the international level, measures under the FAO Model Scheme and Draft Agreement generally apply to foreign fishing, carriers or supply vessels. However, a challenge for many countries in the SADC region is to control IUU fishers that may be flying their own flag under a joint-venture or other arrangement, but fish outside its zones and return to their ports for landing or trans-shipment.

In some SADC countries, especially those where the large pelagic fishery of the Indian Ocean and the mid-water fishery of the Atlantic Ocean occurs within their EEZs, foreign vessels are also landing fish caught within and beyond their EEZs.

Recommedations for action

Efforts following the signing of the SADC Protocol on Fisheries in August 2001 have included support from the United Kingdom government through 'The Stop Illegal Fishing Programme: A Programme of Support to Tackle IUU Fishing in Southern Africa'.

As part of this programme, and in cooperation with the Government of Mozambique and the South West Indian Ocean Fisheries Commission (SWIOFC), a 'Southern and Eastern African Forum to Counter IUU Fishing' was held in Mozambique in October 2007. The meeting explored various aspects of regional cooperation to counter IUU fishing and prepared an indicative list of areas of priority concern to regional collaboration on tackling IUU fishing, including the need to strengthen and harmonise port State measures.

FAO Workshop on Port State Measures to Combat IUU Fishing

The FAO Workshop agreed on six key issues for further action and cooperation in strengthening and harmonising port State measures, as shown below.

A comprehensive framework setting out the actions that should be taken under each issue, as developed by the Workshop, appears on www.stopillegalfishing.com. It includes the following topics:

- Continuing political will and support;
- Harmonisation and standardisation;
- Regional MCS centre;
- Training and human capacity building;
- Funding; and
- Information sharing and activity coordination.

Conclusions

Port State measures have been recognised both internationally, and by several fora in the SADC region, as being central to future initiatives to combat IUU fishing. The way forward has been carefully considered, and although a number of challenges must be addressed, a range of concrete actions has been proposed for consideration by SADC member countries.

Central to these actions are the importance of strengthening regional cooperation in a cost-effective manner, establishing transparent processes and assuring human capacity development for effective implementation.

Successful outcomes for the region are readily achievable with strong political will and clear priorities. In this respect, the SADC region has the potential of providing exemplary outcomes that can serve to combat IUU fishing and transform its negative impacts into gains for both the people and resources of Southern Africa.

For footnote details see page 84.

By Simon Upton, Chair, Round Table on Sustainable Development and Director of the High Seas Task Force

The High Seas Task Force broke new ground by bringing together like-minded Ministers and interested stakeholders to address illegal, unreported and unregulated (IUU) fishing.

High Seas Task Force:
Best Practice through International Cooperation

What was the rationale for setting up a Task Force?

In the wake of the Johannesburg World Summit in 2002, many people were wondering how to make sense of the vast agenda that the world community had assembled. There was a weariness with unwieldy, drawn out global processes. But the global nature of so many problems meant that merely national or even regional-level initiatives would fall short.

The Round Table on Sustainable Development at the Organisation for Economic Cooperation and Development (OECD) decided to see if it would be possible to choose a single issue from this lengthy list and move at the pace of the most motivated countries. Illegal fishing on the high seas was chosen because it was genuinely global (it relates to the global ocean commons which is beyond the control of any single party). It is an issue that cuts across far more fields than any single global agency or negotiating forum.

The result was the decision by a small number of countries, who did not claim to be representative in any way, declaring their determination to tackle the issue to the extent they were able to even if others didn't share their sense of urgency.

How did Task Force members decide to go about their task?

From the outset, the Task Force was – as stated in its long title – ministerially led. In other words, Task Force membership was initiated by Ministers themselves, not their bureaucracies. It was Ministers who had to front up. This proved to be both a strength and a weakness. There was a loss of continuity caused by a revolving door membership which saw, over the two and a half year life of the initiative, every Minister replaced except Chile's Felipe Sandoval and Namibia's Abraham Iyambo. New Zealand went through three Ministers during the life of the Task Force! None of this was avoidable – elections happen and so do cabinet re-shuffles.

In the secretariat's view, if the exercise were ever repeated, Ministers should nominate a well-informed senior adviser to take responsibility for ensuring national-level responsiveness. Relying on the standing bureaucracy is insufficient.

The five original participants (Canada joined later) decided to invite some other stakeholders to join them on the basis that governments aren't the sole source of wisdom on an issue as complex and multi-faceted as this. They were successful in attracting NGO support in the form of the International Union for Conservation of Nature (IUCN) and the World Wide Fund for Nature (WWF) International. Both organisations had to contribute their chief executives to the Task Force to match the ministerial-level representation by countries. They also attracted the active support of the Earth Institute at Columbia University. Attempts to engage the private sector were almost wholly unsuccessful. Companies like Unilever that have had a lot to say about sustainably sourced products declined to engage. This was one of the most significant defects in the Task Force's composition.

Every Task Force member had to contribute money (or push someone else to do so). The most generous country contributor was Australia by far. Notwithstanding that, in the end about half the necessary funds had to be raised from philanthropic sources, most notably the Packard Foundation and the Oak Foundation. The money raised funded a secretariat of just three people for a little over two years. It was agreed at the outset that the secretariat would have a short shelf-life. There would be no empire building and the staff would work towards the disbandment of the secretariat within a month of their final report.

Task Force members agreed that the analysis the secretariat undertook should lead to a series of practical measures that could be undertaken immediately by the membership regardless of whether the wider global community wanted to act. They didn't want those measures to undermine ongoing multilateral processes in places like the Food and Agriculture Organisation (FAO), the International Maritime Organisation (IMO), and the United Nations (UN). Rather, they wanted to lead the way in the hope that others might follow

Closing the Net – a comprehensive analysis of the IUU phenomenon.

thereby giving some impetus to otherwise slow processes.

Most importantly, the members wanted to put themselves in a very clear advocacy position at the end of the process. They wanted to be able to ask non-member countries two simple questions:

(1) Do you agree with our analysis? If you don't, specify what's wrong with it.

(2) If you can't fault our analysis, what stops you from joining us in taking the action we are committed to taking?

The Task Force secretariat was required to see its entire analysis in the light of those demands. The aim was to avoid yet another lengthy, learned analysis of the problem with no discernible impact on its resolution.

Did the Task Force deliver on its stated ambitions?

In terms of generating a first class, multi-dimensional analysis of the problem, the Task Force certainly delivered. Closing the Net is, for the time being, the most comprehensive analysis of the illegal fishing phenomenon. It brings together in one place a complete analysis of the economic, trade, environmental, developmental, criminal, legal and enforcement aspects of the problem. Under the current global architecture, these aspects are dealt with to a greater – and, sadly, all-too-often lesser – extent by a myriad of international and regional agencies. In theory they work together closely. The practice is another matter.

In terms of developing a suite of practical measures that can be implemented without waiting for the rest of the world, the Task Force managed to settle on a short list of activities that could provide the basis for immediate action. While some were, in effect, simply common positions to advocate in global forums, at least two were 'concrete' in the sense that they were designed to deal directly to illegal operations. These were:

- A proposal to resource properly the International Monitoring and Control Surveillance Network then hosted by the National Oceanic and Atmospheric Administration (NOAA) in the United States of America. This network is supposed to be a hub for enforcement agencies in more than 40 member countries. Up until now only the United States of America has ever contributed any real resources and there have been no dedicated full-time staff. If there is ever to be a 'Fishing Interpol' it will require more than voluntary part-time efforts. The Task Force agreed that real resources should be found to give the network wings.
- A proposal to establish an inventory of fishing vessels on the high seas drawing on the large number of publicly available databases that are currently completely fragmented and difficult to access for forensic purposes.

In addition, the Task Force decided to force the pace on debating how Regional Fisheries Management Organisations should perform. It established an expert panel to develop a 'model' for such an organisation which could then become a standard against which regional organisations could benchmark themselves.

Will it make a difference?

This is the only question that really matters. The answer is that time will tell. A report like Closing the Net probably has a shelf-life of 12 months to 18 months at the most. It will be up to the Ministers who participated (and, let's hope, their predecessors) to use their offices to promote their conclusions and encourage wider participation. They will also need to find more resources if their initiatives are to bear fruit. Countries spend, collectively, billions on patrolling their own watery domains. But fish – and fishermen – aren't confined by boundaries on ocean maps. Being prepared to spend a couple of million per annum on what happens beyond those magic lines is essential if there is to be a genuinely global response to a global problem. Yes, that expenditure is providing a global public good that in theory should be paid for by all countries. But it isn't – and it won't be any time soon. Countries that want to take the lead will have to put their money where their good intentions are. If they do, they stand a fair chance of influencing the future shape of global high seas management. If they don't, it will have been just another report.

By Markus Bürgener, TRAFFIC East/Southern Africa

Over-fishing, disease, ecological change, habitat loss and failed governance have all contributed to the decline in wild abalone stocks over the past three decades.

The Illegal Trade in South African Abalone *(Haliotis midae)*

Abalone is the common name used to describe the genus *Haliotis*. South Africa has five endemic species of abalone but only one species, namely *Haliotis midae*, is commercially harvested. *H. midae* takes eight years to reach sexual maturity and approximately another four years for their shells to grow to the minimum diameter of 115 millimetres suitable for harvesting. Harvesting of abalone dates back about 6 000 years but it was not until the late 1960s that the resource began to be over-exploited as a result of its demand as a delicacy in East Asian markets. Abalone for meat consumption is traded in live, frozen, canned and dried form but it is also sold as an aphrodisiac and its shells are sought after as ashtrays, soap holders and food platters. There is almost no domestic consumption of abalone in South Africa with over 95% of the catch being exported to Hong Kong, Mainland China, Japan, Malaysia, the Republic of Korea, the Philippines, Singapore and Taiwan.

The commercial abalone fishery dates back to the mid-1900s, with peak catches of nearly 3 000 tonnes in 1965. Abalone fetches the highest price for any seafood product harvested in South Africa and the commercial fishery has provided direct employment opportunities to hundreds of members of coastal communities. During the 2004/05 season, the industry supported approximately 300 holders of commercial fishing rights, not including support staff and their dependents. However, due to the decline in wild stocks, mainly as a result of illegal harvesting, the Total Allowable Catch for abalone has been reduced annually from 615 tonnes in 1995 to 125 tonnes for the 2006/07 season and 75 tonnes for the shortened 2007/08 season. In February 2008, South Africa took the unprecedented step of closing the fishery.

The decline of the abalone stocks in South Africa to the point where the fishery is now closed is largely as a result of illegal fishing of the resource, although the encroachment of West Coast Rock Lobster *(Jasus Lalandii)* in certain areas, has had a detrimental impact as well. Rock lobster feed on sea urchins whose protective spines provide a safe haven for the vulnerable young abalone to shelter under. The resultant decline of sea urchins in the area has left the abalone exposed to predation.

Live abalone *Haliotis midae*.

The inability to adequately patrol the region's extensive coastline in the past four years has also contributed to increased poaching of abalone to previously unprecedented levels. Trends in 2006 and 2007 indicate that similar levels are being experienced. Confiscation records for abalone demonstrate a more than ten-fold increase between 1996 and 2006. In 2006, more than one million abalone were confiscated, the highest figure to date. The majority of illegal trade is in dried and frozen abalone, although there are recorded incidents of illegal trade in canned abalone. There are no recorded incidents of illegal trade in live abalone.

Activities related to abalone poaching and trade occur in almost every South African

province and the export of illegal abalone products occurs at numerous land, sea and air border posts around the country. It is difficult to determine exactly how much the country has actually lost financially through abalone poaching, or what social and environmental damage has been caused. Because the harvest and trade is illegal, it is difficult to determine exactly how much abalone has been poached but estimates run from four to six times the amount taken out by the legal fishery.

The associated social costs of the illegal abalone trade through the apparent involvement of so many members of coastal communities, from young to old, has severe long-term implications for these communities. It is alarming to hear the anecdotal accounts of children dropping out of school and adults leaving the formal job sector to poach. Such a situation will not only result in further marginalisation of these vulnerable individuals from earning a living within the legal economy but will also preclude any future opportunities to benefit from the use of this endemic marine species.

Photo © Markus Burgener TRAFFIC

Dried South African abalone.

In an attempt to curb the illegal international trade in abalone, the South African species was listed in the terms of Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2007. The move signals a step in the right direction as it enlists the help of other countries in tracking South African abalone in international trade and also strengthens regulatory controls in key importing countries such as Hong Kong, the People's Republic of China, Taiwan and Japan.

Records of the Census and Statistics Department of Hong Kong show large quantities of abalone being imported into Hong Kong from South Africa's neighbouring SADC countries of Mozambique, Swaziland and Zimbabwe. Poached abalone is also known to be traded through Namibia and this poses enforcement challenges since there is currently one known legal commercial abalone aquaculture operation in Namibia producing and trading in *H. midae*. The South African abalone species is endemic and legitimate South African exporters have indicated that they do not export abalone, in any form, to other African countries. Furthermore, apart from the South African fishery and aquaculture production and the Namibian aquaculture operation, there is no other known legal commercial harvesting or trade in abalone in any of the African countries. Thus, it is almost certain that all abalone exported from Mozambique, Swaziland and Zimbabwe to Hong Kong was illegally harvested in South Africa and laundered through neighbouring countries.

The CITES listing will allow neighbouring SADC States such as Mozambique, Swaziland and Zimbabwe, countries through which illegal abalone is smuggled, to assist in regulating the international trade.

Tackling the illegal trade throughout the commodity chain will require well coordinated collaboration between many of the organs of State within all spheres of government, including government departments in key trans-shipment and importing countries, as well as members of the private sector and civil society. There is also a necessity to ensure meaningful involvement of the quota holders as well as other industry, NGO and civil society stakeholders in the development and implementation of any plans to ensure the identification of appropriate, realistic and viable alternative livelihood options.

A process is required where a long-term strategy is developed for the sustainable use and long-term management of the resource whereby coastal inhabitants, the private and NGO sectors, and other stakeholders are meaningfully involved in developing realistic alternatives. This commitment to cooperative governance has been the foundation of the process upon which other countries have embarked when rebuilding their abalone fisheries. Such a process will not happen overnight and will require a great deal of effort, collaboration and dedication but the benefits of conserving such a valuable endemic species should far outweigh any governance challenge.

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CONCLUDING REMARKS

CONTENTS

What Next?

By Sandy Davies and Per Erik Bergh, Stop Illegal Fishing Programme Coordination Team

In the brief history of the Stop Illegal Fishing Programme the response by a wide range of stakeholders including governments, inter-governmentals, the fishing industry and non-governmental organisations has been overwhelmingly positive towards the campaign to stop illegal fishing in Southern Africa. The question now is how to move forward to develop and implement a cohesive, comprehensive and practical plan that will turn words into actions. So what is needed?

Firstly, national fishery management must support strong MCS capacity and capability. The National Plan of Action on Illegal, Unreported and Unregulated (NPOA-IUU) fishing is central to any government strategy to fight IUU fishing. The implementation of this plan should be the core activity of the monitoring, control and surveillance (MCS) organisation and contribute to the implementation of the overall central regulatory framework for fishery governance. MCS routines, procedures and work practices must be developed and training given to ensure that the regulatory system is put into place on the ground. The increasing need for flag States, coastal States and port States to control their fleets and their ports in accordance with international legislation is adding more pressure on often already over-stretched MCS organisations. Prioritising the development and implementing of the NPOA-IUU fishing, training personnel, improving information systems, procuring or regionally sharing MCS hardware, working with organisations such as the coastguard and navy and identifying critical risks (economic, biological or social) to analyse where to prioritise MCS effort all form part of the response package required at a national level to manage these demands in a successful manner.

Secondly, regional strategy and collaboration must be comprehensive. In the last decades many commitments to regional and international agreements have been made to protect the fishery resources and those dependent on them. Among the most significant in the Southern African region are the agreements relating to the Regional Fisheries Management Organisations (RFMOs) and Regional Management Bodies (RMBs). These provide a framework for cooperation on fisheries both within and outside the Exclusive Economic Zones (EEZs). Although some of the organisations are capable in the area of MCS, others are lacking and they need to increase their capacity to facilitate collaboration between their members in this area. Regional cooperation can be strengthened further by Memorandum of Understandings and standardised systems and protocols for information exchange. In regional cooperation it is important to identify the appropriate levels and appropriate players for cooperation: defining the players, their roles and the links between them is critical to ensure that the whole is greater than the sum of the parts.

Options to achieve this are being discussed around the region: they include a regional MCS Centre and a Stop Illegal Fishing Task Force. The MCS Centre would be an exciting development that could underpin many of the other regional aspects of collaboration such as the training of inspectors and observers, the creation of regional vessel lists, sharing of vessel monitoring system (VMS) information and the sharing of MCS hardware and human resources. It may also offer a suitable Secretariat for a multi-sector Stop Illegal Fishing Task Force and facilitate regional discussions. A challenge will be to decide under which umbrella such collaborations would be most effectively constituted to best achieve the task at hand.

Thirdly, catching, trading or transporting illegal fish must not pay. In order to stop illegal fishing it is not just those catching fish that must be punished and stopped but also those that trade or transport it. Just as with fishers, there is a need to have awareness campaigns to alert traders and transporters what constitutes illegal activity, otherwise they may unwittingly handle illegal fish. Trade and marketplace measures to stop the trade and handling of illegal fish include policies and practices that are used to track and regulate trade in seafood products from the time the fish

are caught to when it reaches the consumers. These measures include various MCS elements such as catch monitoring, control measures, verification of product labelling and tracking through the chain of custody. However, the proliferation of these trade and marketplace measures, including certification schemes will, if not carefully managed, add increasing pressure on already over-burdened national MCS organisations to comply with ever stricter international standards. It is, therefore, important to consider and to research further into the possible impacts and benefits of these measures and schemes and to assess where the burden of future international regulations on trade and certification programmes will lie. Extracting lesson learning and best practice from other areas of environmental crime may prove to be a useful way forward.

Fourthly, fishery governance must be improved through changes in behaviour. Just as fishers need to understand the benefits of playing by the rules so do governments. Articulating the argument and getting the argument to those that need to hear it will help to change attitudes, and this may in turn, change behaviour. Increasing our understanding of the impacts of illegal fishing and more importantly the potential benefits of fishing legally and governing the fishery with fair and just regulatory systems, is important information that we need to know and that we need to share. This can be done through lesson learning and exchange of experiences, through publicity, through research and more in-depth analysis, and through peer pressure to promote a personal and institutional conscience to manage the resources justly and sustainably. Awareness of the benefits of playing by the rules is a top priority, while finding incentives to encourage good governance, through accountability and simple clear systems to facilitate anti-corruption measures are all good first steps.

Finally, the championing of the Stop Illegal Fishing campaign by the African leaders has provided the essential catalyst required to start the momentum and provide the political commitment to make it move forward. But the governance of fishery resources is not the private domain of governments. All stakeholders need to take concrete action and make changes to ensure that the process continues. The fishers, the fishing industry, the fish traders, the non-governmental organisations, civil society, educational establishments, inter-governmental organisations and development organisations, all have a role to play in the fight against illegal fishing. In the coming decade it will be the ability of these groups to practically strengthen and support the work of each other that will be the critical factor in making illegal fishing history.

All stakeholders have a role to play in the fight against illegal fishing.

Footnotes & References

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Page 2: Illegal, Unreported and Unregulated (IUU) Fishing

By Denzil Miller, Commission for the Conservation of Antarctic Marine Living Resources Secretariat

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Page 50: Fisheries and International Trade

By Suzannah Walmsley, Marine Resources Assessment Group

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Page 54: Fisheries Certification

By Charlotte Tindall, Marine Resources Assessment Group

FOOTNOTE

1 A leading food processor in the UK and owned by international brand Foodvest.

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Photos (left to right): Gilles Hosch, Susan Schulman, Gilles Hosch, Susan Schulman

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- MRAG, forthcoming. Achieving sustainable development objectives through fisheries certification: opportunities and challenges;
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Page 58: Assessing the IPOA-IUU

By Gilles Hosch, Fisheries and Coastal Resources Planning and Management

The following reports are available for downloading at http://www.stopillegalfishing.com/documents.html

- Stop Illegal Fishing Programme IPOA-IUU Implementation status report for the SADC region – Members and RFBs;
- Volume 1 – Executive Summary;
- Volume 2 – Main Report;
- Volume 3 – Annexes NPOA-IUU.

Page 66: Flagging a Warning

By Steve Trent, Environmental Justice Foundation

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Page 72: Port State Measures

By Judith Swan, Food and Agriculture Organisation of the UN (FAO)

1. For example, the General Fisheries Commission for the Mediterranean adopted a regional scheme on port State measures in February, 2008, based on the draft Agreement;
2. Relevant RFMOs include the Commission for the Conservation of Antarctic Living Marine Resources (CCAMLR), Indian Ocean Tuna Commission (IOTC), International Commission for the Conservation of Atlantic Tuna (ICCAT) and South East Atlantic Fisheries Organisation (SEAFO). The South West Indian Ocean Fisheries Commission (SWIOFC) has also been very active in promoting regional cooperation, including by supporting the Southern and Eastern African Forum to Counter IUU Fishing that was held in Maputo, Mozambique from 29 to 31 October 2007. Indian Ocean Commission (IOC) Monitoring, Control and Surveillance Project is implementing a human capacity development project for fisheries port inspectors, including development of a supportive Fisheries Information and Statistical system.


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