No. 58 | March 2011

ISSN 0973–1121

SAMUDRA REPORT

THE TRIANNUAL JOURNAL OF THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS

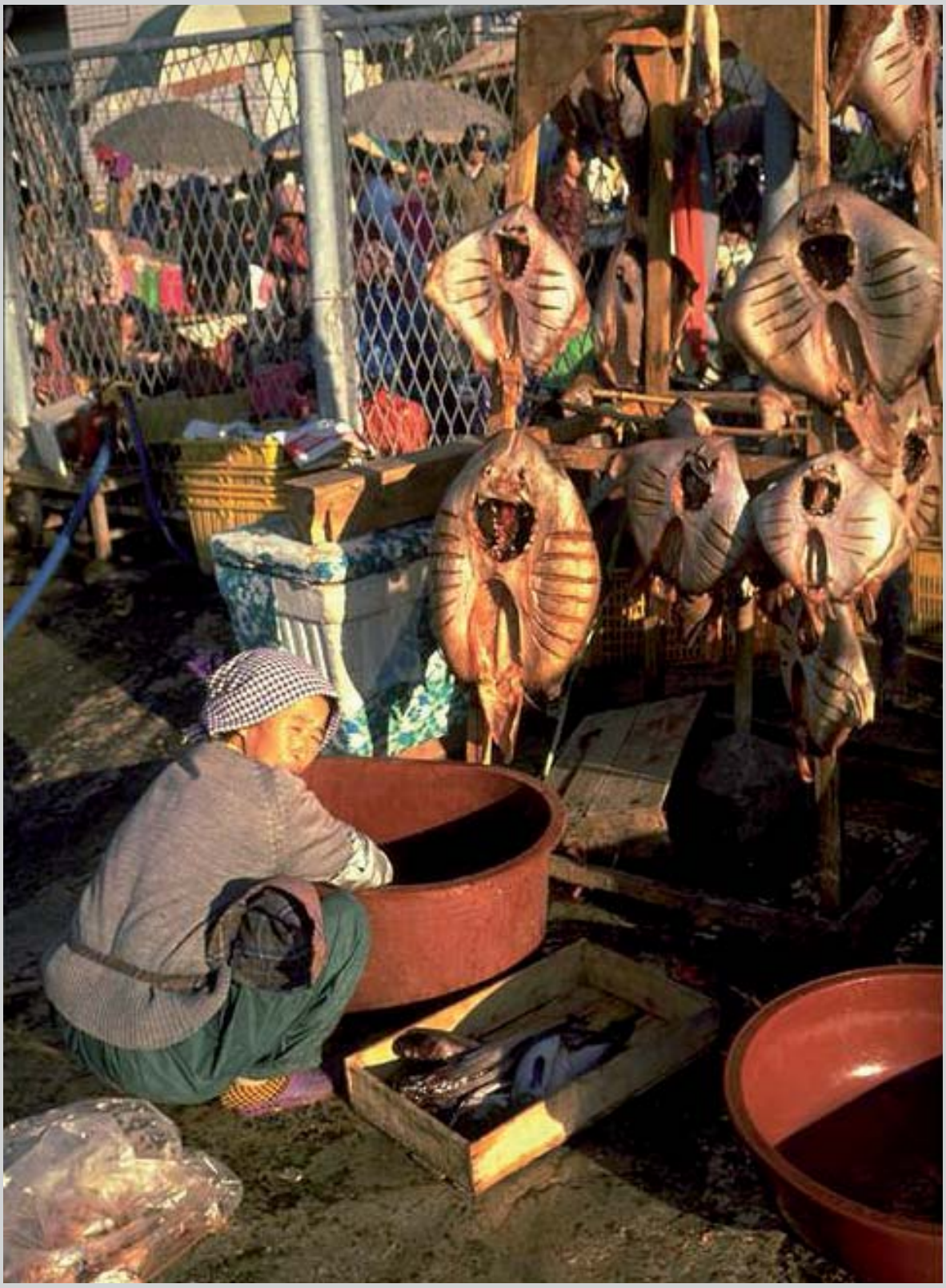
Fisheries, Communities, Livelihoods

ICSF is an international **NGO** working on issues that concern fishworkers the world over. It is in status with the Economic and Social Council of the **UN** and is on **ILO**'s Special List of Non-governmental International Organizations. It also has Liaison Status with **FAO**.

As a global network of community organizers, teachers, technicians, researchers and scientists, **ICSF**'s activities encompass monitoring and research, exchange and training, campaigns and action, as well as communications. ***SAMUDRA*** *Report* invites contributions and responses. Correspondence should be addressed to Chennai, India.

The opinions and positions expressed in the articles are those of the authors concerned and do not necessarily represent the official views of **ICSF**.

All issues of ***SAMUDRA*** *Report* can be accessed at **www.icsf.net**



OLIVIER BARBAROUX

SAMUDRA REPORT

THE TRIANNUAL JOURNAL OF THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS

NO.58 | MARCH 2011

PHILIPPE FAVRELIERE/ PECHE ET DEVELOPPEMENT

FRONT COVER

Fishing
by Jiaur Rahman
www.jiaurrahman.com/pages/gallery7.html

PUBLISHED BY
Chandrika Sharma for International Collective in Support of Fishworkers
27 College Road
Chennai 600 006, India
PHONE: (91) 44–2827 5303
FAX: (91) 44–2825 4457
EMAIL: icsf@icsf.net

ICSF BELGIUM OFFICE
Sentier des Rossignols 2
1330 Rixensart, Belgium
PHONE: (32) 2–652 5201
FAX: (32) 2–654 0407
EMAIL: briano@scarlet.be

EDITED BY
KG Kumar

DESIGNED BY
P Sivasakthivel

PRINTED AT
Nagaraj and Company Pvt. Ltd., Chennai

ILLUSTRATIONS BY
Sandesh (sandeshcartoonist@gmail.com)

FOR LIMITED CIRCULATION ONLY

SAMUDRA News Alerts

SAMUDRA News Alerts is a free service designed to deliver news reports and analysis on fisheries, aquaculture and related issues, on a daily or weekly digest basis, in plain text or HTML format.

The service often features exclusive, original stories on small-scale and artisanal fisheries, particularly in the regions of the South, as well as issues that deal with women in fisheries and safety at sea. Apart from news and stories on fisheries, the service also focuses on environmental and oceans issues. Please visit http://www. icsf.net to subscribe to SAMUDRA News Alerts.

BACK COVER

Woman seaweed diver in Ramanathapuram, India
Photo: Shilpi Sharma

ROLF WILLMANN

A poster at the 1984 International Conference of Fishworkers and their Supporters in Rome, Italy

Towards Participatory Small-scale Fisheries

On its 25th anniversary, there is a general feeling that the International Collective in Support of Fishworkers should continue to promote low-impact fisheries

It is now 25 years since the International Collective in Support of Fishworkers (ICSF) was formed in 1986 in Trivandrum, India, four years after the adoption of the United Nations Convention on the Law of the Sea. At a time when the industrial model of fisheries development was celebrated by donor agencies and governments as the key to increasing global fish supply towards removing poverty and malnutrition in coastal developing nations, ICSF upheld the importance of just, participatory, sustainable and self-reliant artisanal and small-scale fisheries.

ICSF has, within this framework, been supporting the formation of fishworker organizations at the national, regional and global levels, and providing information, analysis and training to better understand and articulate small-scale fishworker concerns and interests. Specific efforts have been made to valorize the role of women in fisheries and fishing communities, and to articulate a 'feminist perspective' on fisheries development.

ICSF has been associating with several international processes such as the United Nations Conference on Environment and Development, the United Nations Fish Stocks Agreement, the Code of Conduct for Responsible Fisheries (CCRF) of the Food and Agriculture Organization of the United Nations (FAO), the Convention on Biological Diversity (CBD) and the Work in Fishing Convention, 2007 of the International Labour Organization (ILO), to expand civil society space in fisheries policy and planning at different levels, and to address some of the key areas of interest to artisanal and small-scale fishworkers.

The provisions of the CCRF on preferential access to small-scale fisheries to their traditional fishing grounds are a direct outcome of ICSF's work. ICSF has also been promoting a human-rights approach to fisheries development and management. Over the last five years or so, small-scale fisheries and human rights have gained greater attention of the world community, culminating in the recent decision of the FAO Committee on Fisheries (COFI) to look at options for a negotiated international instrument for small-scale fisheries.

Despite some gains, some of the old challenges still remain. Fishworker organizations at different levels are yet to consolidate the gains from international processes for empowering fishing communities. High-impact fishing gear and techniques, such as bottom trawling, are still rampant. Certain elements of artisanal and small-scale fisheries are getting more diversified and becoming singularly market-driven, making the subsector more complex, while raising new issues of equity and sustainability. More and more people from non-fishing communities seek employment in fisheries. Market-determined management regimes are becoming a condition for market access.

An expanding globalization process, manifested through new challenges to the coast and nearshore waters in the form of oil and gas exploration, mining, coastal industrialization, indiscriminate aquaculture development, is leading to greater pollution, displacement, disruption of fishing activities and loss of livelihoods. Narrow socially-blind, donor-driven marine and coastal conservation programmes are marginalizing fishers in their traditional fishing grounds.

Climate-change issues threaten to disrupt the livelihoods of coastal communities. Natural disasters like tsunamis and cyclones have intensified of late.

On the occasion of its 25th anniversary, ICSF has sought the views of a cross-section of its Members, and well-wishers about the role that the organization should play in fisheries and how it could improve its engagement toward sustainable outcomes for fishing communities (see the supplement). The thought-provoking responses tell us that we should continue to promote low-impact fisheries and rights- and responsibility-based approaches in fisheries development and management, to involve youth, and to pay greater attention to decent work, and alleviation of poverty and hunger in fishery-dependent communities. ICSF takes these suggestions seriously and reckons to strengthen its work in molding global, regional and national opinion on fisheries and climate change. Capacity-building of fishworker organizations will be taken up towards greater coherence at national, regional and international levels. ICSF will utilize the preparatory work towards a new international instrument for small-scale fisheries proposed by FAO as an opportunity to address some of the new challenges facing fishing communities, and in meeting the expectations as articulated by its Members, and well-wishers.

Humans and the Sea

The Japanese *Satoumi* concept of managing coastal resources depends crucially on the bottom-up involvement of local communities

The '*Satoyama* Initiative' was adopted by the 10th meeting of the Conference of Parties (COP10) of the Convention on Biological Diversity (CBD) in October 2010 at Nagoya, Japan. As reported in *SAMUDRA Report* No. 57, November 2010, the COP10 specifically recognizes "the *Satoyama* Initiative as a potentially useful tool to better understand and support human-influenced natural environments for the benefit of biodiversity and human well-being".

Satoyama is a Japanese word meaning 'mountains in human residential areas' (from '*sato*', meaning 'residential area', and '*yama*', meaning 'mountain'). The marine and coastal version of *Satoyama* is called *Satoumi*, where the '*umi*' means 'sea'.

The management practices usually take the form of an initiative to conserve ecosystem services.

Satoyama and *Satoumi* are Japanese concepts for long-standing traditions associated with land and coastal management practices. These traditions have allowed sustainable use of natural resources and provide a historical model for environmental stewardship and resource management that contributes to human well-being.

The management practices usually take the form of a stakeholder initiative to conserve and sustainably use the ecosystem services. Collective efforts by stakeholders (local residents) for resource management started before the Edo era, which ended in 1868, when feudal landlords granted rights to local fishers or foresters to manage and harvest the resources in return for a levy of a portion of the harvest as tribute.

During that period, marine resources were particularly important for the dietary needs of the people. The Japanese did not eat cattle meat for religious reasons and, hence, the main source of protein then was seafood. Despite the widespread demand, marine and coastal resources have been sustained for centuries through the collective efforts of the people. There are records, for instance, which indicate the sustainable use of coastal abalone resources for more than 600 years in some coastal villages in Japan.

Satoumi activities are still going on in various coastal communities in Japan. The Meiji governments, established in 1868, rigorously surveyed traditional local fishery management rules and attempted to incorporate them in the new government legal system. The present government issues licences called 'fishery rights', which allow exclusive harvest of fishery resources by local fishers in specified areas.

Long-term benefits

The government does not levy a portion of the harvest as tribute any more, but does collect tax and licensing fees. This system continues to provide incentives for local fishers to collectively manage their own resources to maximize their long-term economic benefit from the resources.

This article is by ***Nobuyuki Yagi*** *(yagi@fs.a.u-tokyo.ac.jp) of the University of Tokyo, Tokyo, Japan*

ANNE McDONALD/ UNU-IAS

MPAs and other conservation activities have been created as bottom-up, self-imposed instruments of local communities

Various marine protected areas (MPAs) and other area-based conservation activities have been created as the bottom-up, self-imposed instruments of local communities. Many local rules, however, have been left unlisted in the government regulations until now, presumably because they are too locally specific. Such local rules are implemented today as self-imposed agreements among local fishing communities, and the complete picture of these conservation activities has been largely unknown until now.

A survey was conducted by a team of the University of Tokyo from late 2009 to early 2010 in an effort to grasp a comprehensive picture of MPAs in coastal Japan. As a result, the survey identified 1,161 locations of MPAs in Japan.

Table shows the number of MPAs in Japan according to their management mechanisms. Protection is provided through various legal instruments. The six types of MPAs are: (i) marine park areas established by the Natural Parks Law (managed by the Ministry of the Environment); (ii) marine special areas established by the Nature Conservation Law (managed by the Ministry of the Environment); (iii) special protected zones inside the wildlife special protection areas, which are established by the wildlife protection and appropriate hunting laws (managed by the Ministry of the Environment); (iv) protected waters established by the act on the protection of fishery resources (managed by the Ministry of Agriculture, Forestry and Fisheries, MAFF); (v) legally binding no-take zones of aquatic animals and plants established under the Fishery Act and prefectural fishery co-ordinating regulations (managed by MAFF); and (vi) no-take zones established through self-imposed agreements among the members of the fishery co-operative associations (FCAs).

Among the 1,161 locations, 1,055 (52+616+387) are implemented in conjunction with fishery regulations. Specifically, they take the form of no-take zones for fish species. The number of the bottom-up, self-imposed MPAs (387 locations in the study) had not been available for many years, and this study is the first published one that shows approximately 30 per cent of MPAs in Japan are community-based, self-imposed no-take zones.

MPAs managed by the Ministry of the Environment take a top-down approach, where the central government is a major driver of conservation, while fishery-related MPAs managed by MAFF take a bottom-up approach in which the informal functions of local FCAs are critically important.

The total area of MPAs in Japan has not been provided in this study. There is lack of information on the possible overlaps between different types of MPAs, as well as the exact size of some areas in community-based, self-imposed no-take zones, which makes an accurate calculation of the total coverage difficult at this stage.

The relevance of the number of such no-take zones can be explained by the management system of fisheries in Japan. Traditional Japanese fishery management systems are based on limited-entry systems and area allocations. At present, fishing areas are allocated to FCAs through the government licensing system. These area allocations are, in many cases, based on the traditional tenure system in managing coastal fishery resources, which assumes right-based co-management of resources in the community.

Fisheries agency

The number of FCAs in Japan was 1092 as of 31 March 2009, according to the fisheries agency of the government of Japan. Many FCAs

declared one no-take zone, some had two or more, while others possessed none. The number of no-take zones is reasonable, judging from the fact that it roughly corresponds to the number of FCAs.

A question may arise on the status of enforcement for self-imposed areas. The mechanism for compliance of the rules can be explained as follows:

First, self-imposed no-take zones have certain economic compulsions for implementing peer monitoring among the members in the same FCAs. Since the limited-entry system in coastal fisheries is strictly maintained by the fishery rights regime imposed by the government, those belonging to one FCA assume long-standing rights to collectively use fishery resources in their waters. In other words, the same group of fishermen bears the cost of conservation and receives the benefits inside local waters. Once they mutually agree to create a no-take zone as a means to maximize their collective benefits, the fishermen have a strong incentive to adhere to conservation, and peer-monitoring activities would be initiated to deter poachers. Several fishermen informed the authors of the study that they monitor positions of boats of their peers in the sea using vessel positioning devices, mobile phones and other communication tools. Fines are often levied in case of infringement.

Second, self-imposed no-take zones are perceived among FCA members as being just as legally binding as other no-take zones. The majority of legally binding no-take zones and protected waters listed in prefectural fishery co-ordinating regulations are considered to have originated from past voluntary no-take zones.

Community-based coastal fisheries management started more than 250 years ago in Japan. Records show that the fishery regulation of Tokushima prefecture, for instance, which was enacted in 1895, contained provisions of closed areas and seasons. Such provisions were not a new creation about 115 years ago, but merely a legalization of measures that already existed as self-imposed community rules. This observation is reasonable, considering that the creation of new no-take zones from scratch usually requires more transaction costs than just reauthorizing already existing customary rules. It can be argued that, because the starting points of voluntary and legally binding no-take zones were similar, FCA members tended to adhere to both rules in a similar manner.

Why are many self-imposed MPAs left unlisted in the government legal framework? FCAs usually have both published and unpublished rules, and many MPAs are unrecorded. There are reasons why some of them are left unpublished in official documents. First, the non-binding ones are relatively new and missed the timing of major revisions of prefectural fishery co-ordinating regulations. Members of FCAs would prefer to avoid the rigorous documentation process required to register such areas as legally authorized protected areas, when good compliance for such local MPAs are maintained even without the formal legal status.

Table: The number of MPAs in Japan

MPA type	Management authorities	Legal framework	Number of sites
Marine park area	Ministry of the environment	Natural parks law	82
Marine special areas	Ministry of the environment	Nature conservation law	1
Wildlife protection area	Ministry of the environment	Wildlife protection and appropriate hunting law	23
Protected waters	Ministry of agriculture, forestry, and fisheries	Act on the protection of fisheries resources	52
Legally-binding no-take zones	Ministry of agriculture, forestry, and fisheries	Prefectural fishery co-ordinating regulations	616
Community-based self-imposed no-take zones	Local fisheries co-operative association (FCA)	Published and unpublished FCA rules	387

(*Source:* Yagi et al.,2010. Marine Protected Areas in Japan : Institutional Background and Management Framework. Marine Policy (2010), Vol. 34, Issue 06, pp. 1300-1306)

Second, fishers prefer flexibility in protecting migratory species. In the case of the sand eel fishery in Ise bay, for instance, the area of the autonomous MPA changes weekly to allow timely escape of migratory fish stocks. Had the regulations been legalized, they would not have been fully adaptive to the rapidly changing distribution of the species targeted for protection.

Activities of *Satoumi* are not limited to the creation of self-imposed MPAs. They also include positive interaction with the environment such as through habitat rehabilitation or tree planting upstream of rivers to help maintain water quality.

Such positive interactive activities with the environment—which have not been included in the study of the University of Tokyo—also include sea-grass planting, sediment removal from the ocean bottom, and removal of alien species. These activities ensure that the immediate marine and coastal biodiversity enjoys a higher level of protection than the surroundings.

Taking off from the discussions at the CBD, it is encouraged that the focus should not be only on total area coverage of MPAs but also on the intensity of *Satoumi* activities which include various bottom-up conservation activities of local stakeholders. This would benefit the fair and holistic evaluation of marine conservation activities.

Is the Japanese *Satoumi* approach to MPAs globally applicable? To answer this question, we should remember that compliance mechanisms of *Satoumi* and MPAs are based on peer monitoring and sanctions by community stakeholders who share the costs and benefits of the conservation activities.

Satoumi and self-imposed MPAs are one of the management tools that could bring common benefits to the members of the co-management group. In sum, *Satoumi* and autonomous MPAs are not a product of simple altruism, but rather are logical extensions of the tenure system guaranteed by the government legal system.

ANNE McDONALD/ UNU-IAS

Satoumi are marine and coastal landscapes formed and maintained by prolonged interaction between humans and ecosystems

Users must be interested in the sustainability of the particular resource so that the expected benefits will outweigh current costs. To this end, the role of the government is important in keeping non-stakeholders from gaining access to no-take zones.

In the case of Japan, the fishery right issued by the government allows exclusive access to fishery resources for the licence holder, and is treated as a non-transferable property right under the Fishery Act. In return, FCAs are expected to establish their collective management rules for resource exploitation in the tenure area.

It can be argued that without similar territorial use-rights guaranteed by governments or similar authorities, the Japanese-style *Satoumi* or self-imposed MPAs would be somewhat difficult to transpose to other countries.

For more

hitoumi.jp/hozen/
***Satoumi* Reports and Publications (in Japanese)**

ourworld.unu.edu/en/satoumi-the-link-between-humans-and-the-sea/
***Satoumi:* Link between Humans and the Sea**

www.env.go.jp/water/heisa/satoumi/common/EMECS8_Report.pdf
International Workshop on *Satoumi*

www.ias.unu.edu/sub_page.aspx?catID=111&ddlID=1418
***Satoyama-Satoumi* Ecosystems and Human Well-being, 2010, United Nations University**

Get Out of the Spotlight !

The ecolabelling programme of the Marine Stewardship Council is biased towards industrial-scale fisheries and has little relevance for small-scale fisheries

In 1997, Unilever and the Worldwide Fund for Nature (WWF) formed the Marine Stewardship Council (MSC), a seafood certification body that, according to its 1998 vision statement, was intended to "safeguard the world's seafood supply." Through its certification and ecolabeling programme, MSC aimed to harness consumer power to ensure a sustainable flow of seafood into the global market. The organization's mission does not include safeguarding fishing cultures or ecosystems.

Complaints about externalized costs of fisheries bearing the MSC ecolabel are rarely addressed...

With the MSC aggressively courting small-scale fishers, particularly in developing countries, those considering certification would do well to study the MSC's mission, and try to understand the costs and benefits—particularly, who pays the costs, and who reaps the benefits.

In her article, "Winning with Certification", published in *SAMUDRA Report* No. 56, July 2010. MSC Programme Manager, Developing World Fisheries, Oluyemisi Oloruntuyo highlights the premium prices occasionally garnered by MSC-certified products as an enticement to join the programme. But experienced fishers and traders know that the premiums go to the early adopters of any production or marketing innovation, and commonsense begs two questions: With most ecolabel-conscious countries suffering economic hardship, how many consumers will actually pay more for their fish? And if paid, will premiums ever find their way into fishers' pockets? The MSC standards have nothing to say on this. But if a significant number of fisheries take the bait and opt for ecolabelling, then certification eventually becomes a requirement for market access, adding another cost to doing business—a premium paid by fishers for the chance to sell at any price.

As Stefano Ponte points out in his case study, "Ecolabels and Fish Trade: Marine Stewardship Council Certification and the South African Hake Industry", the MSC is a technical, economic instrument through which seafood trading corporations can outsource responsibility for sustainable fisheries, and shift the implementation costs onto the backs of fishermen. "Increased sustainability may indeed result from these initiatives, but Northern consumers and corporations rarely foot the bill" says Ponte.

Small-scale fishers in the developing world, and rural or depressed areas of the developed world, will underwrite the MSC certification scheme, and the costs go beyond the price tag of assessment. The MSC does not assess the social impacts when large fishing operations break fishers' unions and harvest stocks that have historically supported small-scale fisheries.

Certification limits

Complaints about externalized costs of fisheries bearing the MSC ecolabel are rarely addressed in a meaningful way. "There are limits to any

This article is by ***Paul Molyneaux*** *(moly213@gmail.com)*

certification scheme," says Brendan May, former Chief Executive Officer of MSC, dismissing issues outside the MSC's vision statement. The MSC is not obliged to apologize for the way it has been structured, and it would be hard pressed to address all the issues raised by its critics.

For the MSC, 'sustainability' means fisheries that supply a steady flow of seafood into the global market, which requires an 'economy-of-scale' certification system based primarily on science. As long as a fishery's harvest is at, or below, target stock recruitment levels and the gear is deemed reasonably selective, a fishery that chooses to can usually meet MSC's standards.

But the increasing number of suspect seafood products bearing the MSC ecolabel has raised questions about the organization's commitment to its own standards. Eminent fisheries scientists, including Daniel Pauly and Sydney Holt, writing in the September 2010 issue of *Nature*, have criticized the MSC for its certification of several fisheries, including the poorly understood Chilean sea bass and the Antarctic krill fisheries.

While the MSC has revised its mission statement to include the concept of ocean health, most of the seafood wearing the MSC ecolabel still comes from industrial-scale trawl fisheries, most of which have bycatch issues—the consequences of which remain unknown—and histories of exceeding quotas. Certification may look good on paper, but these fisheries take place far from the public eye. Without 100 per cent observer coverage, the potential for high-grading, and under-reporting bycatch and landings is too obvious to ignore. The damage trawling does to the seafloor adds another cost to be borne by the fish and fishers. According to the Monterey Bay Aquarium, mid-water trawl nets used in the MSC-certified Alaska pollock fishery are in contact with the seafloor 44 per cent of the time they are in the water, and "habitat and ecosystem effects of the pollock fishery are considered to be 'severe', according to Seafood Watch criteria."

As Ponte suggests in his case study, the MSC's need to balance corporate profitability with sustainability has turned certification into "a ritual" that enables industrial fishers and traders to "increase their visibility in the market place under the guise of sustainability."

As noted by Oloruntuyo in her article in *SAMUDRA Report,* fisheries in developing countries provide half the world's seafood exports. In order for the MSC to achieve its goal of maintaining a sustainable flow of seafood into the world market—primarily, the metropolitan areas of developed countries—it needs to find a way to certify these fisheries. Rather than make premiums for producers part of its standards—a promise of economic well-being for fishing communities—the MSC encourages fishers to add value to their products by purchasing a certificate of sustainability.

To make small-scale fisheries certification possible within its industrial-scale model, the MSC proposes to base assessments of many data-poor fisheries on 'proxies'. The MSC is experimenting with Productivity Susceptibility Analysis (PSA) as a proxy for data in several small-scale fisheries. PSA is a

VITOR JOSÉ RAMOS/MSC

105 fisheries are certified to the MSC ecolabel.
Most of them come from industrial-scale trawl fisheries

subjective measure of a target stock's productivity, and susceptibility to overfishing, based on likelihood of interaction with the gear being used. There is a PSA spreadsheet that can be used to assess almost any fishery; certifiers plug 'best guess' numbers into the respective columns, and determine whether a fishery meets MSC standards or not.

Understandably, data-poor fisheries must be assessed subjectively, and PSA is a useful tool, but it fails to measure many qualities of small-scale fisheries, such as equitable access to, and distribution of, fisheries resources; inter-generational relationships, ecological relationships, and needs of local consumers, all of which encompass a more holistic view of sustainability. PSA amounts to very rough science that provides the MSC certifiers with an approximation of the harvest/recruitment data used in assessing industrial-scale fisheries.

As it does with industrial fisheries, the MSC scheme concerns itself with product flow from small-scale fisheries. Since the well-being of fishers, communities and ecosystems falls outside the limits of the MSC's standards, many consider its ecolabel inappropriate for small-scale fisheries. In 2008, over 200 small-scale fishers from around the world met at a civil society preparatory workshop ahead of the FAO Global Conference on Small-scale Fisheries (4SSF) in Bangkok, Thailand, and drafted a declaration that, among other things, rejected MSC-style ecolabelling schemes.

Once invested in the MSC value system, fisheries will be inexorably drawn towards increasing capitalization.

The civil society declaration presented at the 4SSF conference eschewed MSC ecolabels because they are inherently oriented toward export markets that have sucked resource wealth out of developing countries. They fail to address the longstanding power imbalance that leads to exploitation.

The MSC programme demands conformity, and the highest cost that small-scale fishers may end up paying for certification is the loss of cultural identity. The MSC's corporate value system, overlaid onto complex social-ecological relationships established by artisanal fishing cultures, will eventually eclipse those traditional value systems. In time, the corporate, hierarchal, 'one-size fits all' managerial model will replace the culture-based systems that have achieved sustainability by using low-impact gear, protecting resources, and sharing the wealth that healthy fisheries generate. Once invested in the MSC value system, fisheries will be inexorably drawn towards increasing capitalization and privatization. Fisheries may be sustainable, but the landscape will change radically, to the benefit of capital, not traditional fishing communities.

While most small-scale fisheries offer great potential for being practised sustainably, many suffer from overexploitation, habitat degradation, and social decay in coastal communities. In order to remain viable, these, and all fisheries, will have to change to cope with social, ecological and economic forces beyond their control. Many small-scale fisheries are export-oriented, and, in these cases, resilient and equitable consumer/producer linkages need to be forged. The MSC's pro-capital, asocial approach to sustainable fisheries will put small-scale fishers hoping to engage with the global market at a disadvantage in a new version of an old power struggle.

Appropriate gear

Small-scale fishers do have choices. They can utilize regional labelling schemes to improve market visibility when appropriate. No certification system can guarantee sustainability, but experts and non-experts alike can verify the use of appropriate gear, equitable access to resources, and the cultural context of a fishery. Labels such as those being developed by the Responsible Fisheries Alliance,

which guarantee seafood produced by artisanal and small-scale fishers using low-impact or passive gear, are helping small-scale Icelandic longliners separate their products from those of the Icelandic trawler fleet (which is now seeking MSC certification). In other parts of the world, fishers are developing and supplying local markets, and receiving premiums from their neighbours in joint producer/consumer efforts to achieve sustainability at regional levels.

The MSC deserves credit for raising the issue of sustainability to a prominent place in the global seafood market, and harnessing consumer power, but its political/economic agenda will never allow it to enter the promised land of truly sustainable fisheries.

Having exhausted its credibility and its effectiveness, the MSC should surrender its role as a certification body and leave the stage. The more time the MSC spends in the spotlight, the more it dominates the discourse on sustainability, and as long as that discourse ignores social and ecosystem values, it will not serve consumers or producers.

If small-scale fishers want to identify their products in the market, they must take control of ecolabelling as a tool to certify the principles of social and environmental responsibility that lead to sustainable fisheries. These principles have created sustainable fisheries all over the world, North and South, from the Canadian weir fishery in the Bay of Fundy to artisanal fisheries in Thailand's Palian River estuary.

Fishers and their communities seldom amass financial riches when harvesting sustainably from healthy resources, but they eat well, provide food for the world, and are generally happy. Perhaps the ecolabel for small-scale fisheries practising the principles of sustainability could be a smile… with a gold tooth in it!

PREETHA RAKESH

Ecolabelled seafood at the Red Lobster restaurant, Illinois, US. Ecolabelling should be a tool to certify the principles of social and environmental responsibility

For more

icsf.net/icsf2006/uploads/publications/samudra/pdf/english/issue_56/art05.pdf
Winning with Certification, SAMUDRA Report 56

www.givengain.com/unique/tralac/.../20060829_PonteMSCcertification.pdf
"Ecolabels and Fish Trade: Marine Stewardship Council Certification and the South African Hake Industry" by Stefano Ponte

www.4ssf.org
Securing Sustainable Small-scale Fisheries

The Fish Belong to the People

On a 79-minute film made in 2010 by William Hyler with the support of artisanal fishermen from a fishing port in Maine, United States

The Fish Belong to the People is a nice title for a film about fishing that is original, and has been produced with the support of small-scale fishermen and several environmental non-government organizations (NGOs). The Midcoast Fishermen's Association (MFA), whose president is Glen Libby, was created in 2006 to promote the defence of deep-sea fishermen and sustainable fisheries. These deep-sea fishermen use bottom trawlers.

...traditional fishing communities have collapsed, and the last of the Mohicans are trying to find new answers.

For Glen Libby, fish is a common resource and fishermen are paid by people to bring fish they will feed on. It is but natural that they should discuss together the fishing methods used so that they can ensure a sustainable resource and environment. That does not mean that fishermen would abandon their interest in their job, which is a sense of freedom working close with nature, but it implies that the job should be done within the framework of collectively defined regulations.

The film describes with rigour, through fishermen's words, the spiral that led to the collapse of New England's fisheries. It began with motorization which allowed an uncontrolled development of trawling by Russian and European industrial boats. These boats were repelled from the coast by the Magnuson Act of 1976, which established the 200-mile zone. But the act had two consequences: the development of a largely subsidized deep-sea fleet, and the takeover of management by government authorities and scientists who marginalized the fishermen, keeping them away from decisionmaking. If we add to this the development of new fishing and navigation techniques that enabled fishermen to fish everywhere with greater precision, we can see how all the conditions occured for a quick collapse of fishing stocks.

The MFA fishermen acknowledge their responsibility in overfishing leading to such a collapse. Moreover, they no longer control the market, since supermarkets encourage people to shift from local fresh products to imported processed fish. Consequently, in 20 years, traditional fishing communities have collapsed, and the last of the Mohicans are trying to find new answers so as to survive and build a future for their children and consumers. They realize that the government policy favours industrial boats in the name of resource conservation.

Bottom trawling

The fishermen of Port Clyde, who are MFA members, are looking for groundfish: haddock, pollock, monkfish, flounder, cod, and so on. To do so, they use bottom trawling, considered by many scientists, NGOs and other fishermen as primarily responsible for the destruction of the seabed as well as the resource.

*This review is by **Alain Le Sann** (ad.lesann@wanadoo.fr), a Member of ICSF, and President of the Lorient film festival, "Fishermen of the World"*

WWW.THEFISHBELONGTOTHEPEOPLE.COM

William Hyler, director of the film, "The Fish Belong to the People", shot in a fishing village in Maine, US

The fishermen have to confront greater constraints, including forbidden zones and a reduction of the number of days at sea. All this leads to empty ports. But the stocks have not increased. The restriction on bottom trawling has not led to the rebuilding of stocks, but has destroyed most of the fishing communities. Now only one per cent of the boats that used to fish along the coast, which formerly abounded with fish, remain.

The fishing zones are being increasingly reduced (to about 20 per cent of the Gulf of Maine). Meanwhile, in the fishing zones that are forbidden to them, industrial boats using midwater trawls for herring and mackerel are authorized and considered to be non-destructive. The MFA fishermen contest this point of view, saying that these midwater trawlers destroy species that serve as food to groundfish, as well as juveniles of all sorts.

Consequently, the trawlermen, have decided to focus on three different aspects to reach their goal of sustainable fishing: gear, regulations and the market. In this, they are being helped by a powerful local NGO, Island Institute, which has given them important financial support and human resources. They have developed more selective nets with square mesh and are still working to improve them. They are still asking for, unsuccessfully until now, the creation of zones managed by the fishermen, for an abandonment of the days-at-sea system, and for collective quotas. With the regulation on days at sea, fishermen have had to take more risks, and fish in rough weather, hoping to sell at a better price. To sell the fish, they have set up a co-operative which sells directly baskets of fish to restaurants and families who have placed their orders in advance.

Their community-supported fishery (CSF) is on the model of the popular community-supported agriculture (CSA). With better prices and guaranteed sales for fresh fish of good quality, the fishermen do not have to chase quantity. They also have the support of consumers for their project of resource management. For them, it is the only means of preserving the last fishing grounds of artisanal communities. To highlight the quick success of the fishermen's approach, the film ends with the inauguration of the new fishing quay. The film will certainly raise a debate among those who criticize bottom trawling, but, supported by researchers, NGOs and consumers, the MFA fishermen are putting forward strong arguments to defend themselves.

For more

www.thefishbelongtothepeople.com/
Official Website of the Film

newenglandfilm.com/magazine/2009/09/ciff2
Q and A with the Director in NewEngland Film.com

www.pecheursdumonde.org/
Third Annual International Film Festival "Pêcheurs du Monde"

A Moral Hazard

The recently formed Aquaculture Stewardship Council is unlikely to develop into a positive force for marine conservation or food security

The decline in production and trade from marine-capture fisheries, primarily due to overfishing, has raised serious concerns over the future of food security and the livelihoods of millions of people who rely on marine fisheries for income and employment. Yet this marine crisis is increasingly countered by optimism over the growth and potential of aquaculture.

According to the website of the World Wide Fund for Nature (WWF), approximately half of the seafood we eat is wild-caught, the other half is from aquaculture. WWF argues that due to the strong demand for seafood, and the limits of wild-capture production, increasing the growth of aquaculture is a responsible path to choose. The director of the WWF's aquaculture programme says, when done well, aquaculture "protects the environment" and is "the most sustainable way to feed the world".

A part of the problem lies with the approach the ASC is using to certify farms...

The growth in commercial aquaculture has generated concerns, primarily over its environmental impact. We need not dwell on the evidence here, other than noting that the list of ecological problems facing fish farming include: pollution, habitat destruction, excessive use of freshwater, contamination of ecosystems with antibiotics or harmful chemicals, and the escape of farmed fish into the natural environment. Farming of prawns and salmon has perhaps generated the most concern.

In the wake of various guidelines and principles developed by the aquaculture industry for its regulation, WWF, in partnership with the Dutch Sustainable Trade Initiative, has recently launched the Aquaculture Stewardship Council (ASC). It aims to become the world's leading certification body for responsible fish farming, and its goal is to work with the industry and retailers to use ecolabelling to transform aquaculture towards environmental and social sustainability. Clearly, the ASC is modeled on the Marine Stewardship Council (MSC), which was itself modelled on the Forest Stewardship Council (FSC), all three being developed by WWF.

Any initiative that seeks to improve the environmental impact of fish farming would seem worthwhile. Moreover, the ASC, unlike the MSC, contains standards on social criteria, and promotion of the rights of workers as well as the livelihoods of communities living in the vicinity of farms. The standards are, therefore, ambitious and it would seem they have been developed with a thorough understanding of the complex challenges confronting the industry.

Potential problems

However, the ASC faces a number of difficulties and potential criticism. A part of the problem lies with the approach the ASC is using to certify farms, which raises concerns about its reliability and impartiality.

*This article is by **André Standing** (andre.standing@transparentsea.co), a freelance researcher and founder of TransparentSea, an initiative that promotes freedom of information and accountability in fisheries*

Furthermore, promoting aquaculture as a realistic answer to overfishing and global food shortages is contentious. While certain forms of fish farming seem important to encourage, many other forms of farming should probably be discouraged, and certainly not promoted through ecolabels. Unfortunately, the ASC does not make this distinction. Overall, we may wonder whether the ASC, as it has been designed so far, will make a meaningful contribution to marine conservation or food security.

It would appear that the ASC's approach to certifying fish farms is essentially the same as the one used by the MSC for certifying wild-caught fish. An expert committee, formed by the WWF, has developed a list of principles and criteria for a fish farm to be considered sustainable. Since environmental challenges differ according to the type of fish farming, separate standards have been developed for nine types of farmed fish, that is, a standard for salmon farming, one for prawn farming, one for tilapia, and so on. The ASC will now approve a list of private companies to act as certifying bodies. Companies wishing to gain the ASC logo will pay these certifying bodies to conduct an assessment of their farm, leading to a score indicating how well the farms do on the standards. Low scores will not mean companies will be denied the logo, but will mean the companies will have to meet certain 'corrective measures' over a specified time frame.

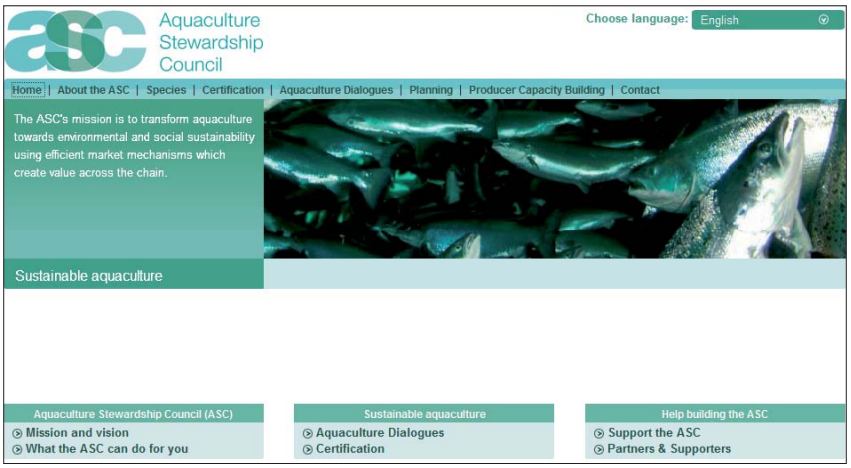
One of the difficulties confronting ecolabels such as those of the ASC, as well as the FSC and MSC, is the reliability and consistency of their scoring methods. All rely on generating a single score for the unit of certification, representing the degree to which they meet the underlying standards. For the MSC, the scoring system is sub-divided into three components; the sustainability of the fish stock, the ecosystem impacts, and the strength of the fisheries management. Each component is scored on a scale of one to 100, and the final decision to award the label is based on the unit of certification scoring over 60 on all three components, and not less than 60 on any one. However, depicting the performance of different fisheries as a single-digit score is inherently inconsistent and it lacks statistical validity. This is partly because the measurements that influence the final score are subjective, but also because each unit of certification is quite different—if two fisheries score the same, we cannot infer that they are equally sustainable. Likewise, if one fishery scores three points more than another, it is not clear what this means in practice, yet a couple of points either side of 60 makes all the difference.

This problem of consistency and validity would seem to be pronounced for the ASC. The thorough and detailed standards the ASC has developed involve numerous scoring components, including not only environmental ones, but also social ones.

Different problems

Moreover, the ASC is trying to provide one ecolabel for various forms of fish farming that face very different problems, evident in the need to develop nine different standards, as opposed to just one, which is the case for both the FSC and the MSC. It is not clear how the ASC will weight scoring on different criteria to arrive at a single statistic, nor is it clear how scores for one type of fish farming, such as for prawns, should compare to scores for

WWW.ASCWORLDWIDE.ORG



ASC is trying to provide one ecolabel for various forms of fish farming. It is trying to develop nine different standards

another, such as oyster farming. There may be extreme examples of best and worst practice that most people will agree should either pass or fail according to the ASC standards, but in between these extremes, there will be many farms where the decision is less obvious and the scoring system could be exposed as flawed or arbitrary.

There is also inherent 'vested interests' that may distort the certifying process further. Certifying bodies are vulnerable to being biased towards the companies they assess. This is because assessments are well paid and the clients, that is, the companies wanting to be certified, will choose which accredited company will do their assessment. Certifying bodies have a vested interest in passing companies, as that will lead to further business, not only in terms of annual assessments and reassessments, but also through positive referrals.

For the MSC, peer reviewers have noted that it is hard to challenge decisions...

The ability for certifying bodies to be biased lies with the fact that standards and principles of any third-party ecolabelling system can be vague, allowing certifying bodies a great deal of leeway in how they are interpreted. For example, for prawn farms, the ASC states that all impacts on surrounding communities, ecosystem users, and landowners should be accounted for, and will be negotiated, in an open and accountable manner. How certifying bodies will form an opinion on this is not certain. It is easy for certifying bodies to simply tick boxes.

The potential for vested interests to undermine the certifying process should be countered by the ASC itself, in its oversight role. Yet the organization faces a difficult balancing act of ensuring the credibility of decisions and, at the same time, growing market coverage of its logo. It may be easy to get the balance wrong. To insure integrity of the certification process, the ASC, following the approach of the MSC and the FSC, will probably use peer reviews of final assessment documents, and it will encourage comments and feedback from civil society. The reports of certifying bodies will, therefore, be made available on the Internet and anyone wishing to raise complaints should be able to do so.

However, assessment documents can be complicated and unclear—filled with technical jargon—and, most of the time, they are available only in English. Those people who may be best placed to challenge findings of assessments, such as fishermen and coastal people living near fish farms, may find assessment documents totally alien and inaccessible, particularly when they cannot read English or do not have access to the Internet.

For the MSC, peer reviewers have noted that it is hard to challenge decisions because reviewers do not have access to raw data or they are not able to corroborate findings; all they can do is comment on the internal logic of documents. There have also been conflicts of interests in the peer review mechanism of the MSC, where peer reviewers have been employed by certifying bodies as consultants on other projects. Given the specialized field of aquaculture, such problems may arise for the ASC, although proactive steps could be taken to mitigate this risk.

Reversed interpretation

The experience of the MSC and the FSC suggests that when complaints are made, or doubts are raised through peer reviews, final decisions are often based on a reversed interpretation of the precautionary approach, that is, the benefit of the doubt tends to favour the companies, not the environment. Certain decisions by the MSC and the FSC have been challenged, and these organizations have faced a loss

of credibility among a significant number of scientists and conservation non-governmental organizations (NGOs). The ASC, being based on the FSC and the MSC, may well find it encounters similar criticism.

The experience of the MSC also shows that using certifying companies is an expensive process. This means it is normally out of reach for small-scale firms, and it only makes sense for those with sufficient economies of scale. Since this generates criticism, philanthropic organizations and donors are encouraged to pay for the certification of smaller businesses. WWF provides funding and support for smaller firms, and it also has acted as the co-client for MSC pre-assessment in some cases (for example, in Tanzania's octopus fishery). Yet subsidizing a voluntary market-based initiative may not be sustainable, particularly where the economic benefits are ambiguous and the donor funding moves on.

Proponents of aquaculture encourage the view that it is an industry able to alleviate the food insecurity caused by overfishing, and it can safely meet growing demands for seafood. In fact, aquaculture is already doing this; apparently, half of the seafood we eat is from aquaculture and this proportion will certainly increase, if the claims are to be believed. However, this claim over the contribution of aquaculture to seafood consumption is easily misunderstood, and promoting aquaculture needs to be done carefully, otherwise it may have negative repercussions.

A point of confusion is that the term seafood is sometimes used generically to cover all fish products, including those from the sea, as well as those from inland or freshwater sources. Based on this definition of seafood, and using the latest data supplied by the Food and Agriculture Organization of the United Nations (FAO) in its latest, The State of World Fisheries and Aquaculture 2010 (SOFIA) report, it is true that roughly 45 per cent (or 52 mn tonnes) of total global fish consumption comes from aquaculture, while the rest comes from wild sources (63 mn tonnes). However, if we use a more literal interpretation of seafood—defined as fish from the sea—the proportion of seafood that we eat from farms is much less.

In 2008, global production of marine wild-caught fish was 80 mn tonnes, of which just over 27 mn tonnes is classified by the FAO as being for 'non-food' purposes, such as the production of fishmeal and fish oil. This leaves approximately 53 mn tonnes for direct human consumption. Mariculture produces roughly 20 mn tonnes of seafood, mainly comprising molluscs, followed by crustaceans (shrimps and prawns), and then, lastly, finfish, such as salmon. So in global terms, about 27 per cent of our total consumption of seafood comes from fish farms.

The majority of aquaculture is based in China. Of the 20 mn tonnes of seafood produced each year by farms, 12 mn tonnes are produced there, with 80 per cent being consumed within the country. China also accounts for most of the inland fish production—about 20 mn tonnes each year. So, looking at the SOFIA data on world fisheries and aquaculture production, excluding China, all forms of aquaculture—inland and marine—account for 26 per cent of total fish consumption, as opposed

FAO/ ROBERTO PAIDUTTI

Fisherman bringing in tilapia. It is believed that aquaculture can alleviate the food insecurity caused by overfishing, and it can safely meet growing demands for seafood

to 45 per cent. The proportion of farmed seafood to total consumption of seafood is lower still, at about 16 per cent. So, for the Chinese, far more than half of their seafood comes from aquaculture; for the rest of the world, the proportion is significantly less.

The statistics showing that mariculture comprises 27 per cent of global seafood consumption, or 16 per cent outside China, is almost certainly an overestimation. Whereas FAO's statistics for mariculture are probably quite accurate, its statistics for seafood production are not. The FAO only receives information on about 70 per cent of commercially exploited fish stocks. It only receives data from 40 per cent of countries in Africa. A study by the University of British Colombia, published early this year, claimed that catches from the Arctic are hugely under-reported and may be 75 times larger than previously estimated.

Prawn and salmon farming alone consumes 9 per cent of all global marine production, as recorded by the FAO.

Most countries in the world also do a poor job in counting the amount of fish produced by small-scale fisheries or subsistence fishing. For example, a report on Mozambique, co-authored by WWF in 2009, showed that the actual catch of fish, when small-scale fisheries were properly included, was over six times greater than the official catch statistics reported by the Mozambique authorities to the FAO. The current Big Numbers project run by the WorldFish Centre in Malaysia has showed similar disparities between reported catches and actual catches by the small-scale sector. To this we can add widely published estimates that some 30 per cent of marine catch is illegal and unreported. When we combine all these missing data for catches of fish at sea, we can appreciate that the real contribution made by mariculture to global seafood consumption is quite small.

The majority of mariculture products, particularly the expensive ones produced by commercial farming enterprises in the Far East, Latin America and Europe related to prawns and salmon, is sold to North America, the European Union (EU) and Japan. Very few people in Africa eat farmed seafood, as is the case in Latin America and the Pacific. So, it is probably the case that mariculture is disproportionately providing food to people who are otherwise food-secure; these are luxury food items eaten by those who over-consume seafood and other protein.

One of the well-established problems facing mariculture is the reliance on the capture of wild fish for breeding, which is important to keep the genetic stock of farmed fish healthy. So a proportion of farmed fish represents wild fish that have been captured, stripped of eggs, hatched and then fattened. It is also acknowledged that carnivorous species of farmed fish, including prawns and salmon, also require seafood in their diet, as does the intensive aquaculture of non-carnivorous fish, given the improved growth that fishmeal induces in these herbivorous creatures.

Fish farming

To produce one kg of prawns, about 1.4 kg of other sea fish is needed. The ratio for salmon is higher, at about 1:5. In total, aquaculture worldwide consumes about 16 mn tonnes of wild fish. Prawn and salmon farming alone consumes 9 per cent of all global marine production, as recorded by the FAO. There have been some advances in the use of non-fish products (such as soybean meal) to feed farmed marine fish and species, but for the time being, the practice of farming key species of carnivorous sea fish involves the use of more fish than is produced. As the marine ecologist Daniel Pauly points out, fish farming for carnivorous marine species remains a net drain on marine ecosystems.

The FAO differentiates between fish for human consumption and fish produced for 'non-food purposes', with the latter amounting to 27 mn tonnes. Yet the majority of wild-caught fish put into the category of 'non-food purposes' are actually being fed to farmed fish (or chickens) in order for humans to eat them. The distinction the FAO makes, therefore, seems odd and further obscures the relative importance to food security of wild-caught fish, compared to farmed fish. The FAO should re-classify fish production data into three categories: fish for direct human consumption, fish for indirect human consumption, and fish for non-food purposes (including that which is used in pharmaceutical industries or is fed to pets).

From a food-security perspective, it seems objectionable that certain forms of fish farming involve taking large quantities of fish with low market value to produce a smaller amount of fish with a higher market value. Those that see this as unproblematic point out that a large amount of fishmeal comes from small fish and 'trash fish'—so-called because of their relatively limited value for human consumption. However, there is a potential for much of the fish being used for fishmeal to be eaten directly by people, particularly fish such as sardines and anchovies. Indeed, with concerted effort, the amount of fish that could be redirected from the fishmeal industry (27 mn tonnes) to human consumption could exceed the total output of farmed marine species (20 mn tonnes). This would also result in more numerous and cheaper products being available to developing countries, as opposed to a smaller number of more expensive and less environmentally sustainable products being supplied to developed countries. This may reduce the availability of some fish species favoured by wealthier consumers, but it is also possible that consumer preference for seafood such as prawns and salmon, as opposed to smaller pelagic fish such as sardines, is caused as much by marketing and product status as by superior flavour.

This dependence on wild fish for feeding farmed fish limits the expansion of certain forms of aquaculture. The supply of fishmeal and fish oils for aquaculture is already under strain, while the farming of carnivorous seafood has stagnated. In Europe and North America, the growth in mariculture has slowed to one per cent a year. Further increases in aquaculture will require technological breakthroughs in artificially enhanced feeds, greater use of non-fishmeal products, including animal products, or simply the purchase of more wild-caught fish. The third option would have negative consequences for the availability and price of cheap fish for poor consumers; the FAO reports that aquafeed manufactures are increasing their use of fishmeal and fish oil at the expense of all other uses, including human consumption. The first two options—feeding farmed fish with artificial or non-fish-based diets raises concerns about the quality and safety of products. Although the industry is reported to be investing in research for alternative feeds, so far reliance on fishmeal remains.

The supply of fishmeal and fish oils for aquaculture is already under strain...

Ecosystem impact

A further problem with using fishmeal for fish farming is that it removes large quantities of smaller fish from marine ecosystems, thereby having an impact on the health of larger predatory fish. This ecosystem impact of fishmeal production has been raised as a serious concern worldwide, including in North America where extensive fishing of menhaden (America's largest commercial fishery) for reduction purposes caused a major fall in the availability of a range of other marine species. In Peru, which produces around 30 per cent of the

global fishmeal supplies, fishmeal processing factories also have a major negative impact on coastal ecosystems and human health through the dumping of liquid wastes and as a result of air pollution.

These inter-related problems of fishmeal—referred to as the 'fishmeal trap'—are less relevant for some species of freshwater herbivorous fish and for less intensive aquaculture practices, as well as the farming of certain shellfish such as oysters and clams. Such species do not need fishmeal in their diets. Indeed, the farming of certain shellfish is thought to have a positive impact on reducing pollution in seawater, although there are still concerns about farmed shellfish changing the genetic composition of wild shellfish. There is also evidence that intensive mariculture of exotic species may spread diseases to wild fish populations, against which they have little resistance.

Wild-caught fish from the sea far outstrip existing and potential production from the farming of seafood...

An increase in the production of less intensive forms of aquaculture, including of shellfish and herbivorous freshwater fish, is undoubtedly the most important policy choice from a food-security perspective. Whether an increase in the production of these forms of aquaculture will take the strain off marine ecosystems is uncertain, and requires more empirical research and monitoring.

The ASC promotes all forms of responsible aquaculture, and statements made by the WWF can easily give the impression that the quantity of seafood we eat from farms is much higher than it actually is. This gives rise to a 'moral hazard'. The idea that an increase in fish farming is able to provide the world with a sustainable and environmentally benign source of seafood may work to lessen the urgency among policymakers to address overfishing in the seas; there may be a sense that although marine fisheries are being poorly conserved, the negative economic and food-supply consequences of this can be mitigated by increased support and economic investments to fish farming in general. Consider, for example, a report by Water Watch in 2010 that described how the Hawaii State government, concerned with overfishing in its seas, subsidized two private companies to create marine aquaculture ventures with over US$3mn, and also provided the companies with lower tax obligations. It seems that these ventures remain unprofitable, have caused considerable negative impacts on the environment, and have generated few jobs, currently fewer than 40.

Wild-caught fish from the sea far outstrip existing and potential production from the farming of seafood, in its literal sense. With the notable exceptions cited above, farming of seafood, particularly carnivorous species such as prawns, salmon and tuna, is a commercial activity concentrated on supplying relatively wealthy consumers in developed countries. The most pressing concern, from both a food-security perspective and a conservation perspective, remains the sustainable and equitable use of the natural resources contained in the world's oceans. Campaigns promoting the commercial interests of the mariculture industry can easily distract from this point.

False understanding

This moral hazard extends to consumers, who may sustain their level of consumption of wild-caught fish under the false understanding that the marine crisis is being compensated for, or solved, by mariculture. This becomes even more contentious where, first, farmed fish is mislabelled as wild fish, giving a false impression of seafood abundance, and second, where farmed fish is able to force the prices down of wild-caught fish,

when scarcity suggest prices should be increasing.

The ASC is presented as an organization that is in everybody's interest. By promoting responsible fish farming, it claims to be making a positive contribution to preserving ocean biodiversity. However, on the basis of the arguments put forward in this article, the ASC will not develop into a positive force for marine conservation while it still promotes the farming of carnivorous marine species. It may, in fact, have a contradictory impact, due to the moral hazard noted above. The ASC is also unlikely to have any bearing on food security, unless it provides exclusive focus to promoting small-scale farming of herbivorous species, which it currently does not. Indeed, the most likely contribution the ASC will make is with promoting the interests of certain aquaculture companies—those with the resources to pay for the ecolabel and those who sell the majority of their products in Europe and North America, where retailers are more likely to demand ecolabelled products.

While it may be too early to pass judgment on the integrity of the ASC, given the experiences of the MSC and the FSC, over time, the ASC may be accused of certifying fish farms that do not meet the highest environmental and social standards, and the ASC logo will be concentrated among products coming from larger commercial enterprises.

The inherent flaws and conflicts of interests in the certifying process make this likely. Indeed, WWF has recently shown that environmental campaigning can be undermined by trying too hard to develop support and partnerships with the industry. Vietnamese farmed pangasius catfish was taken off WWF's international 'Red List' (the 'to be avoided' list) because the Vietnamese authorities were concerned about the potential negative impact this would have on exports. Here we see that independent organizations working to provide consumers with reliable information on the sustainability of products can be compromised by commercial and political considerations.

The logic of ecolabels needs to be revisited for both aquaculture and capture fisheries. The claim that they promote 'good' products at the expense of 'bad' ones, and that this has a positive overall effect on the environment needs empirical evidence. Unfortunately, most studies have shown that voluntary ecolabels that confer positive messages to consumers about the environmental impacts of a product have not been successful in bringing about major environmental gains.

At best, these initiatives make small improvements to the operations of certain companies who are willing to pay for the certification process. In many cases, it is commercial companies that worry about negative consumer campaigns that see ecolabels being necessary, or who see a niche market for themselves. Negative consumer campaigns, in contrast, seem to have more of an impact. The claims made by ecolabels, and the amount of financial support they receive, seem disproportionate. They are not providing radical solutions to what are profound problems. The way in which they have been designed seems to support the status quo, and they may actually work as an obstacle to more progressive policy ideas.

For more

www.ascworldwide.org
Aquaculture Stewardship Council

www.worldwildlife.org/what/globalmarkets/aquaculture/council-faqs.html
WWF: Aquaculture Stewardship Council FAQs

www.panda.org/who_we_are/wwf_offices/mongolia/?uNewsID=197712
WWF putting 'tra' fish on consumer red list angers Vietnam

www.iffo.net/default.asp?contentID=636
International Fishmeal and Fish Oil Organization

www.farmedanddangerous.org
Farmed and Dangerous

www.gaaia.org
Global Alliance Against Industrial Aquaculture

www.fao.org/docrep/013/i1948e/i1948e00.htm
FAO: Private Standards and Certification in Fisheries and Aquaculture

www.fao.org/fishery/topic/16023/en
Selected Links on Aquaculture from FAO

New Bold Steps

Island States in the Pacific have taken bold steps in transboundary fisheries management that may be of interest to developing countries in other regions

Regional Tuna Fisheries Management Organizations (T-RFMOs) have long been dominated by distant-water fishing interests. The flag States with the broadest geographical spread—with vessels operating in several oceans—tend to have the loudest voices.

Coastal States—the countries whose waters are within, or adjacent, to the range of a particular tuna stock—are usually developing countries, and, in the Indian and Pacific Oceans, are often small-island developing countries. As T-RFMO members, they are usually less vocal, have fewer resources for monitoring foreign fisheries, and have fewer scientific services to provide answers to their questions. Traditionally, they have been less effective in the T-RFMO decision-making process.

It is not enough for a small-island country to responsibly regulate fishing within its own waters...

Although it has been difficult for developing coastal States to gain an effective voice in regional tuna management processes, it is precisely these countries that are likely to be most affected by the decisions (or lack of decisions) made by T-RFMOs. These are the countries in whose waters, or adjacent waters, the fish live in and move through, and they are also countries where tuna fisheries can play a large role in national development. For these countries, it is not just a matter of a few distant-water vessel-owning companies being affected by T-RFMO management processes, but entire economies.

Tuna are highly migratory fish. It is not enough for a small-island country to responsibly regulate fishing within its own waters in order to secure the future mainstay of its economy. It also has to worry about what happens to the stock in adjacent waters. And when those adjacent waters are high seas, the coastal State is entirely at the mercy of collective decisions made (or not made) by T-RFMO members.

The Pacific Islands entered the T-RFMO scene late. Before the United Nations Fish Stocks Agreement came into force, tuna fisheries in Pacific Island exclusive economic zones (EEZs) were managed under a set of common regional standards and agreements developed by the coastal States of the region. Through mechanisms such as the Forum Fisheries Agency (FFA), the Nauru Agreement, and the Palau Arrangement, they had already developed a strong basis for conservation-oriented regional co-operation in tuna fishery management well before the Western and Central Pacific (Highly Migratory Fish Stocks) Commission (WCPFC) was established.

Unmanaged fishery

The establishment of the WCPFC was encouraged by Pacific Island States not as a means of bringing control to an unmanaged fishery, but to bring the high seas adjacent to

*This article is by **Tim Adams** (tim@dhanjal-adams.com), former Director of the Fiji Fisheries Division and SPC Fisheries Programmes, and currently working on fisheries management*

their already jointly managed EEZs under the rule of law—to add the final geographical piece to the regional tuna management jigsaw puzzle.

But since the WCPFC opened its doors, certain flag States seem to have found it difficult to come to terms with the Pacific Island coastal State attitude. Apparently, it was expected that the WCPFC would work the same way as the longer-established T-RFMOs—where the majority decision of RFMO members determines allocations and where established flag fishing States dominate the dialogue. Instead, the WCPFC has been shaped from the start by small island States—working together primarily through the FFA—into an institution that concentrates, first and foremost, on the control of areas which are outside the control of national law, and which does not seek to supplant existing measures applying within coastal State EEZs—particularly regionally agreed measures which take into account regional stock limitations.

Pacific Island countries (and, in some cases, Territories) not only share common tuna fisheries assessment, scientific advisory services, joint observer training, joint vessel monitoring systems, databases and licensing measures (such as agreed Minimum Terms and Conditions for access) amongst themselves, but also work together in their approach to broader fisheries negotiations. With facts and arguments at their fingertips, a well-versed set of Pacific Island national representatives is a powerful and effective voice.

In addition, harmonized EEZ regulation covering a number of coastal States—when those EEZs cover a significant proportion of the range of a stock—can be economically very persuasive when it comes to extending compatible management measures to cover the whole range of the stock.

Decisions in the WCPFC are inherently no easier to make than in other T-RFMOs, particularly when the two-chambered system of decisionmaking is taken into account. The broad diverse membership shares the natural tendency of all RFMOs to avoid making decisions of major effect. However, Pacific Island States, either acting together through the FFA, or as subgroups with common interests in particular fisheries, such as the Parties to the Nauru Agreement (PNA), have found that subregional co-operation can help to drive decisionmaking by the broader group to a quicker conclusion.

One example of how a stalled WCPFC decision-making process was given a helping hand by coastal State action occurred in 2006-08 when, in response to mounting scientific evidence that overfishing was occurring on bigeye tuna (*Thunnus obesus*), Pacific Island WCPFC members organized themselves through the FFA to seek further restrictions on the catch of bigeye tuna from purse-seine fishing. The FFA members who were party to the Nauru Agreement—the eight countries that host most of the western tropical Pacific (WTP) purse-seine fishery—had already taken considerable steps to limit the fishery within their own waters, including a cap on effort, and stringent reporting requirements, but they felt that these in-zone measures were being undermined by uncontrolled fishing on the high seas. They wanted the

TIM ADAMS

Tuna longliners, at Lami, Fiji (near Suva, the capital).
These vessels are listed on the WCPFC fishing vessel register

Box 1

WCPFC two-chamber decision-making structure

Decisions of the WCPFC are normally made by consensus. However, under Article 6 of the WCPFC Convention (http://www.wcpfc.int/key-documents/convention-text), a decision on a question of substance that goes to a vote has to be passed by two subgroups of WCPFC member countries. These two 'chambers' are defined by their membership or their non-membership of the FFA (http://www.ffa.int/members). Questions of substance require a 75 per cent majority in both chambers, but questions of procedure can be decided by a simple majority of the entire membership.

WCPFC to fulfil the purpose for which they had agreed that it be set up, and to decide how to control bigeye fishing mortality on the high seas.

Unfortunately, despite the increasing risk of taking no action, the full WCPFC membership was unable to reach a decision on how to control high-seas fishing at its December 2007 meeting. Pacific Island coastal States were disappointed. The FFA members who were party to the Nauru Agreement decided that they could afford to wait no longer and declared two major high-seas enclaves in the WTP entirely closed to purse-seine fishing, from the beginning of 2010.

Of course, this was not a decision that was directly enforceable on vessels—in the absence of WCPFC agreement, there was no relevant international regulatory instrument that could prevent purse-seine vessels fishing on the high seas in the WCPFC Convention Area. Instead, the decision was made effective by the fact that PNA States applied this prohibition on high-seas purse-seine fishing as a licensing measure: not fishing in the high-seas pockets became one of the conditions for access to PNA EEZs. And since the PNA EEZs, between them, cover the majority of the main purse-seine fishing grounds in the Western and Central Pacific, this action carried considerable weight. Without access to PNA EEZs, or to other fishing grounds in the Indian Ocean or Eastern Pacific Ocean, purse-seine fishing in the WCPFC area would, in most cases, be economically impossible.

This decision was finalized by PNA Fisheries Ministers and further endorsed by all FFA Fisheries Ministers at their meetings in Palau in May 2008, and was applied via domestic legislation or as licensing policy by all PNA countries.

At the December 2008 WCPFC meeting, in Busan, it was generally accepted that the high-seas pockets closure to purse-seining was a "done deal"—that the PNA countries were not about to reverse their new joint policy, and that there would be little additional impact if the entire Commission adopted a compatible measure. In fact, the 2008 WCPFC meeting—the last meeting under the control of its inaugural Chairman—went further than the PNA decision. As well as lending its agreement to the high-seas pockets closure and the other associated PNA measures—100 per cent catch retention, 100 per cent observer coverage, and a three-month annual fish aggregating device (FAD) closure, all effective from January 2010—WCPFC actually brought the FAD measure forward and agreed an additional two-month closure in 2009.

This example of collective domestic action facilitating an international decision—or perhaps this example of how a decision by a smaller group can catalyze a decision by a larger group—was a much-needed "shot in the arm" for Pacific Island country joint involvement in regional fisheries processes. The PNA was strengthened considerably with the establishment of a dedicated co-ordinating office, and many new collaborative initiatives are beginning to emerge from that renewed optimism. Also, joint actions through the established regional facilitators, FFA and the Secretariat of the Pacific Community (SPC), have gathered strength with support from key development partners such as the Australian Agency for International Development (AusAID), the New Zealand Agency for International Development (NZAID) and the European Development Fund.

Collective action

Unfortunately, the same kind of preliminary collective action by a subgroup of the WCPFC membership did not have the same impact in 2010, when the PNA proposed that the WCPFC agree on measures compatible with the decision of the PNA heads of government to close further high-seas areas in the central Pacific to purse-seine fishing in 2011, in view of the higher percentage of bigeye observed in catches from those areas. Despite this lack of broader endorsement, the outcome is that most purse-seine vessels will

not be able to fish these additional high-seas areas because they cannot afford to lose access to PNA waters. The WCPFC non-agreement essentially means that a minority of vessels will be effectively exempted from the PNA closure. These include the European Union-built purse-seine vessels that normally operate out of the Eastern Pacific (and which can make a living even if they have no access to PNA waters), and the United States purse-seine fleet, which continues to have access to PNA waters under a long-standing multilateral treaty that overrides any incompatible national regulations. This treaty is currently under review.

The example above is just one of several examples of co-ordinated decisionmaking on transboundary fisheries by groupings of developing States in the insular Pacific. There is no single group of States taking all these actions, but different groups, depending on the context:

- the parties to the Nauru Agreement make specific joint decisions concerning the day-to-day management and development of purse-seine fisheries within their EEZs;
- the members of the FFA collaborate to improve the overall management of tuna fisheries across the whole region;
- the members of the SPC pool their resources—particularly their scientific development assistance resources—in a shared oceanic fisheries assessment and scientific advisory service;
- the countries and territories in the Te Vaka Moana group co-operate in surveillance and monitoring, particularly of longline fisheries; and
- the members of the Pacific Islands Forum co-operate in negotiating fisheries trade agreements.

It will be interesting to see how WCPFC—the first UNFSA-mandated RFMO in a region already well-served by regional fisheries organizations—consolidates its role: whether it will become the 'one-stop shop' for tuna fisheries management across the entire region that its developed members would obviously prefer; or whether it concentrates its attention on achieving overall agreement on total stock status indicators and limits, and on implementing explicit management measures and allocations for high-seas fisheries while leaving it up to coastal States to manage fisheries and allocations in EEZ waters within agreed overall regional envelopes.

Box 2

Scientific advisory services

Small island developing States tend to be at a disadvantage when it comes to obtaining scientific evidence and interpretative advice in response to specific questions they might ask about the status of resources, or the potential effect of proposed management decisions. By definition, they have limited finances as well as limited human resources. The SPC's Oceanic Fisheries Programme (OFP) is a resource that is shared between all SPC members (SPC membership includes France, the US, and their territories, as well as the FFA members), and has evolved over the past quarter-century into a comprehensive tuna fisheries stock assessment, ecosystem research, monitoring support and training programme. OFP staff provide scientific services to individual member territories and countries (as a function of the assessed contributions paid by them to the SPC plus special research or scientific development projects funded by external agencies), and to regional groups or subgroups of SPC members, as appropriate.

Since the advent of the WCPFC, the SPC-OFP has also provided scientific services to the Commission membership as a whole, in particular assessments of the status of the highly migratory populations that are mainly fished in the tropical area of the Commission. One of the founding principles of the WCPFC was to avoid wasteful duplication of existing regional fisheries technical functions, and setting up a separate WCPFC unit to repeat the regional stock assessments that SPC had to perform anyway would not have been cost-effective in an organization that is continually looking to trim its budget.

For more

www.ffa.int
Forum Fisheries Agency

www.wcpfc.int/key-documents/convention-text
WCPFC Convention

www.spc.int/en/
Secretariat of the Pacific Community

Caring for Saltwater Country

Indigenous peoples are taking a lead in managing marine and coastal ecosystems in tropical northern Australia

The coastal and marine environments of tropical northern Australia are amongst the most pristine in the world. Spanning some 4,500 km of coastline, they support high levels of biodiversity, intact habitats, including some of the world's largest and most diverse mangrove forests, coral reefs and seagrass meadows, and robust populations of globally threatened species such as dugong and marine turtle as well as numerous valuable and comparatively well-managed fisheries.

Some 30 per cent of northern Australia has now been returned to indigenous ownership...

Northern Australia is also home to some of the oldest and most intact indigenous knowledge and cultural management systems on the planet—developed and refined over some 50,000 years of continuous indigenous occupation. This long tradition of custodianship means that indigenous Australians possess a detailed body of environmental knowledge and inter-connected spiritual and cultural relationships with their land and sea estates. Indigenous Australians refer to the reciprocal relationships that underpin their use and management of their lands and resources as 'caring for country'.

Indigenous Australians suffered terribly through the often violent European colonization of Australia, with widespread loss of life, language, livelihoods and land ownership. Only in relatively recent times has the British colonial doctrine of '*terra nullius*' (empty land) been overturned and indigenous Australians, particularly in northern Australia, begun to gain legal recognition of their customary estates. Some 30 per cent of northern Australia has now been returned to indigenous ownership and some 462 legal claims extending across 80 per cent of northern Australia are still to be resolved.

Recent legal decisions have also recognized rights of coastal indigenous peoples (often called saltwater people) over their traditional coastal and intertidal estates (commonly referred to as 'sea country' or 'saltwater country' by saltwater people). In most cases, the rights recognized, which include rights to access and extract water for non-commercial purposes, and to fish, hunt and gather, are non-exclusive (that is, they do not grant the right to exclude other users of saltwater country). However, the High Court of Australia's decision in the landmark Blue Mud Bay case (2008) recognized exclusive rights to the intertidal zone adjacent to aboriginal-owned land in a section of the Northern Territory.

Legal decision

The practical ramifications of this decision are still unfolding, but as a legal decision, it significantly

This article is by ***Rod Kennett*** *(Rod.Kennett@cdu.edu.au),* ***Joe Morrison*** *and* ***Micha Jackson*** *of the North Australian Indigenous Land and Sea Management Alliance, Charles Darwin University, Darwin, with inputs from the Djelk Rangers of Maningrida, Northern Territory, Australia*

increases the power of some aboriginal communities to manage their coastal estates by controlling access and commercial use.

In historical times, the property ownership rights of saltwater people across northern Australia were reflected in trading relationships with Macassan fishermen from Sulawesi, Indonesia, who sailed to Australia to harvest saltwater resources, especially *trepang* (sea cucumber or *bêche-de-mer*). The Macassan fishermen brought to Australia iron tools and the technology for making canoes (*lippa lippa*) in exchange for rights to harvest *trepang* and to trade for other items such as turtle shell. The trade (indeed Australia's first export industry) is believed to have originated in the 1670s but was effectively finished in 1906 when the Australian government (which had regulated the trade since the 1800s) ceased issuing licences to Macassan fishermen. The annual arrival of the Macassans had been an important event for saltwater people and many long-lasting family bonds were formed—including indigenous Australians travelling back to Sulawesi with the visitors. In recent times, the issue of illegal, unreported and unregulated (IUU) fishing by foreign vessels and the poaching of resources such as sharks, turtles and trochus shell have altered the relationship between Australian saltwater people and their northern neighbours. While acknowledging the historical relationships, saltwater people are looking to protect their resources from illegal and unsustainable foreign fishing that is depleting their resources and conducted without appropriate cultural protocols being observed.

Today, much of tropical northern Australia remains very remote and sparsely populated (around 0.14 people per sq km). Towns and communities are often many hundreds of kilometres apart, and seasonal monsoonal rains and subsequent flooding restricts movement on a limited network of unsealed roads and bush tracks. Travel is often by small aircraft, especially in the monsoonal wet season. This remoteness means that many indigenous Australians continue to rely on wild-caught and collected foods, and fishing and hunting are important subsistence economic activities. Customary fishing and hunting (legally defined in Australia as being for subsistence economic, not commercial, purposes) not only provide food but fulfil cultural needs around the ceremonial use of resources. They also provide an important vehicle for the intergenerational transfer of knowledge. A complex set of cultural rules regulates where and when customary fishing and hunting takes place, the tools used, species taken and catch sizes—analogous to the management regulations of commercial and recreational fishing. Cultural laws place a strong focus on avoiding waste and sharing resources with kin and the recognized owners of the hunting or fishing grounds. While aboriginal peoples' rights to hunt and fish are legally recognized, commercial fishing and aquaculture activities can have an impact on indigenous peoples' ability to access areas traditionally used to harvest marine resources. For example, saltwater people in the north Kimberley region of northwestern Australia are deeply concerned that pearl farm leases may block

NAILSMA.SMUGMUG.COM

Djelk Rangers patrol the beaches and waters off the Maningrida coast in the Northern Territory of Australia to remove marine debris

off access to sheltered bays where turtle and dugong are traditionally hunted.

Despite the disastrous impacts of colonization, indigenous Australians retained their strong sense of cultural and spiritual obligations to their lands and seas, and regaining land ownership has allowed people greater opportunities to look after their country and be recognized as the owners and managers of their traditional estates.

A contemporary expression of these long-held indigenous rights and responsibilities is the growing workforce of indigenous rangers employed by indigenous land and sea management organizations across north Australia. Underpinned by traditional belief and knowledge systems, the management activities of indigenous rangers cover a wide range of cultural and natural resource issues, including cultural site maintenance, fire management, weed and feral animal control, biodiversity and habitat mapping and protection, and bio-security and fisheries surveillance. (Bio-security refers to quarantine activities to prevent the introduction of exotic pests and diseases. Australia is geographically close to northern neighbours such as Indonesia and Papua New Guinea and hence vulnerable to the introduction of agricultural pests and livestock and human diseases prevalent in those countries.).

Indigenous Australians have retained their strong sense of cultural and spiritual obligations to their seas...

Funding for ranger programmes comes from a range of sources, including government programmes, philanthropic and non-governmental organizations, and agreements with industries such as mining, as well as from local community resources and businesses.

Indigenous community-based ranger programmes in remote localities are indeed the 'frontline' managers of north Australia and are often the only environmental management presence. The Djelk Rangers based at Maningrida—a community of about 2,600 mostly indigenous people on the northern Australian coast—is one of the larger and longer-established ranger programmes. Their management activities exemplify the aspirations of indigenous people.

The Djelk Rangers manage and monitor approximately 6,700 sq km, including 2,000 sq km of marine and coastal environments. During 2009-10 Djelk Rangers conducted 214 sea patrols, travelling a staggering 17,000 nautical miles. Marine patrols are also undertaken on behalf of government agencies, and Djelk Rangers have a contract to perform 72 dedicated customs surveillance patrols annually. Their efforts have resulted in a number of convictions for illegal fishing, significantly increasing recognition of the ownership and management authority of local indigenous landholders. The Djelk Rangers also perform marine debris patrols, which include locating and removing 'ghost nets' (lost or discarded fishing nets that continue to circulate in currents and entangle and kill fish and wildlife).

On the land, the Djelk Rangers' management activities include 'prescribed burning', which involves regularly burning fuel loads so that large, hot fires late in the dry season, which can devastate both human and ecological communities, are reduced.

Traditional knowledge

The Djelk Rangers participate in the West Arnhem Fire Abatement project, an initiative that pays rangers to reduce greenhouse gas emissions by conducting prescribed burning based on traditional knowledge. Other Djelk Rangers' land management activities include feral animal culls and monitoring (particularly of Asian

water buffalo), weed management, cultural site protection, and biodiversity monitoring.

The Djelk Rangers have also pioneered innovative, small-scale enterprises such as the harvest and incubation of freshwater turtle eggs to produce hatchlings for the pet trade. With licensed approval from government authorities, 500 to 1,000 eggs have been harvested each year since 2000, bringing revenue and creating opportunities for training in research and business management.

The activities of ranger programmes, such as Djelk, reflect the aspirations, values and priorities of local indigenous communities identified through participatory planning processes. Many communities across northern Australia have developed 'sea country' management plans setting out how they want to manage their coastal lands and seas. While sea country plans have no legal standing, indigenous communities are increasingly using their sea country plans and similar planning processes to engage with external stakeholders such as commercial fisheries, government regulatory agencies, researchers and industries such as tourism and mining. The management of fisheries (customary, commercial and recreational) are consistently a high priority in sea country plans, and the zoning schemes and catch management prescriptions proposed by indigenous communities reflect a balance between allowing for commercial activity (most often conducted by non-indigenous interests) while protecting fisheries resources for local indigenous people.

Indigenous Australians across north Australia are united in their aspirations for greater control and better management of their land and coastal estates. They seek new and innovative economic opportunities and livelihood options such as ranger programmes, which are based on caring for country obligations, and that will provide sustainable alternative futures for demographically young and growing populations in remote locations across a vast and sparsely populated region. Their efforts are set in the context of high long-term unemployment, limited economic opportunities, a loss of traditional knowledge and experience as old people pass away, poor health and education outcomes and a 17-year gap in life expectancy between indigenous and non-indigenous Australians.

NAILSMA.SMUGMUG.COM

Senior traditional owners are an integral part of the Djelk Ranger programme. Young rangers are guided and mentored by their seniors

Recognizing these shared aspirations and challenges, and the value of better co-ordination of indigenous land and sea management and development across north Australia, senior indigenous leaders of major regional indigenous organizations formed the North Australian Indigenous Land and Sea Management Alliance (NAILSMA) in 2001. NAILSMA's mission is to support indigenous land and sea management using strategic approaches to care for country, with an emphasis on practical management by indigenous people across north Australia.

Crucial role

The crucial role of indigenous people in the sustainable management of Australia's lands and seas, and the value of NAILSMA's co-ordinating role is reflected in significant (multimillion dollar) investment by government agencies and philanthropic organizations in a range of natural and cultural resource management programmes across north Australia,

including traditional burning for greenhouse and biodiversity benefits; indigenous participation in freshwater allocation negotiations; inter-generational transfer of indigenous ecological knowledge; threatened species management; indigenous leadership development; and culturally appropriate networking and communication.

NAILSMA also works with government to actively promote policy change relevant to indigenous land and sea management, including advocating for investment such as through the Australian Government's 'Working on Country' (WOC) programme. WOC investment since 2007 has totalled around A$80 mn and is expected to employ up to 600 rangers by 2010. A related initiative, the Indigenous Protected Area (IPA) programme, funds indigenous communities to declare (formally but legally non-binding) and manage their estates as protected areas. IPAs are consistent with International Union for Conservation of Nature (IUCN) protected area categories and are included in Australia's National Reserve System. IPAs in northern Australia are typically many thousand sq km in size and are coastal and inland areas of high conservation value. They represent a significant addition to Australia's protected estate. For example, the Djelk IPA was declared over 6,672 sq km of traditional indigenous estates after more than eight years of consultations with representatives of 102 clan groups.

Indigenous rangers are resource managers with responsibilities for enormous, remote areas...

Indigenous rangers are resource managers with responsibilities for enormous, remote areas that face a growing array of new environmental threats, including new and expanding weed and feral animal populations, changing fire regimes, marine pollution, bio-security risks and climate change. To meet these challenges, indigenous rangers use both traditional and scientific knowledge and tools (often referred to as 'two-way knowledge' or 'two toolboxes'), often in partnership with non-indigenous scientists and environmental managers to manage their lands and seas. The new knowledge that indigenous rangers generate has enormous potential to fill major data gaps and provide baseline data to assess future change. Through their experiences with managing migratory marine species such as marine turtles and dugong, and tackling north Australia-wide issues such as the management of weeds, feral animals and fire, indigenous rangers recognize the importance of co-ordinated data collection to address landscape-scale issues. Such an approach requires effective information and data management systems that are owned locally and support local decisionmaking, while supporting cross-regional sharing and collaborative decisionmaking.

NAILSMA's initiative called I-Tracker (for Indigenous-Tracker) provides tools and training to assist indigenous rangers to monitor and manage their estates. Using customized CyberTracker® software applications on rugged, waterproof handheld computers, rangers record detailed, geo-referenced information on a wide range of environmental and cultural issues. CyberTracker® software is free and has a large and growing community of users around the world; it has been downloaded over 40,000 times in 190 countries. Using CyberTracker® links Australian indigenous rangers into a global network of similar community-based initiatives. This global network facilitates access to technical expertise and creates opportunities for international exchanges between community-based resource managers.

Standardized application

In collaboration with the Djelk Rangers, GhostNets Australia and government agencies, NAILSMA

developed a standardized 'Saltwater Country Patrol' application that is now used by indigenous ranger groups across north Australia. Data collected include biophysical information on live marine animals (including turtles, dugongs and cetaceans); dead or sick animals; boats, including fishing boats and illegal foreign fishing vessels; marine debris, including ghost nets, other quarantine activities, and commercial fishing nets and crab pots.

Using the geographic information system (GIS) functions of CyberTracker®, rangers produce maps and reports that inform local community decisionmaking and that meet requirements of research programmes, government agencies and funding bodies. Regional aggregation of these standardized local data sets has the potential to significantly improve understanding of marine environmental issues at a regional and national scale.

Indigenous rangers and organizations such as NAILSMA are contemporary assertions of long-held traditional indigenous rights and responsibilities. These initiatives are underpinned by a cultural and spiritual worldview that recognizes the importance of careful stewardship and of maintaining healthy country for people and wildlife. Coupled with growing legal recognition of indigenous ownership of Australia's land and coasts, the strengthening of indigenous land and sea management movement represents an optimistic scenario for the future of Australia's saltwater country.

NAILSMA.SMUGMUG.COM

A float marking the aboriginal sacred sites at sea.
Protecting and maintaining sacred sites are an essential duty of the Djelk Rangers

For more

nailsma.com.au
North Australian Indigenous Land and Sea Management Alliance

bawinanga.com.au/djelkrangers/index.htm
Djelk Rangers

nrm.gov.au
Caring for Our Country Programme of the Australian Government

ghostnets.com.au
GhostNets Australia

ntgfia.com.au/.../precis-high-court-decision-blue-mud-bay-11-february-2009.pdf
Decision in Blue Mud Bay Case

A Spectre that Haunts Fisheries

Individual transferable quotas are prescribed to reduce fleet capacity in the Octopus fishery of Mauritania, but capacity is not structural as in Europe

In May 2006, three years after discussions between key local actors and a panel of international experts from countries like Australia and New Zealand, where fisheries are managed by individual transferable quotas (ITQs), a management plan for the octopus fishery was adopted by Mauritania.

Management of this fishery is more than necessary, given its economic predominance, and the decline in profits in recent decades. The outputs from the international working group of the Mauritanian Institute for Marine and Oceanographic Research (IMROP), corroborated by the Food and Agriculture Organization (FAO) Fisheries Committee for the Central Eastern Atlantic (COPACE), show that octopus is increasingly overexploited, with an excess of effort, which rose from 25 per cent in 1998 to 31 per cent in 2002.

The objective of the Octopus Plan is to maximize the benefits extracted from the natural resources...

According to the Octopus Plan, the government should have tried to curb this overcapacity. However, its attempts have not worked, because they are based on traditional methods of managing fishing effort, which have demonstrably failed wherever they have been used since they are ineffective in curbing overexploitation of fishery resources, and in maximizing the potential economic benefits of octopus resources.

The Octopus Plan also suggests the introduction of ITQs as the solution to these problems, conditional on the implementation of an impact study, programmed for 2007, but which has yet to be carried out.

Nevertheless, in the "Strategic Fisheries Framework 2008 - 2012" it is stated that for the Octopus Plan, "the aim of regulation and capacity-adjusting measures is, through a system of ITQs, to reduce, in a sustainable way, the fishing capacity targeting octopus so as to attain a balance that assures resource sustainability and the optimization of rent". So, without going through the planned step of an impact evaluation, the adoption of ITQs has become effective.

The principal objective of the Octopus Plan is to maximize the benefits (in terms of resource rent) extracted from the natural octopus resources, while respecting the constraints of environmental, economic and social sustainability of fisheries activities.

The aim is to reduce the fishing capacity that targets octopus—currently around 40 per cent in excess—to attain a balance that guarantees the sustainability of resources and the optimization of the rent that is extracted.

Strengthening management

To achieve this, a series of steps are envisaged. First of all, to strengthen existing management, a monitoring system and an annual review of the plan are to be put in place, and a

*This article is by **Ahmed Mahmoud Cherif** (mahmoud.cherif46@gmail.com), a former Director of Fisheries in Mauritania (1976-1979), and Director of the Mauritanian non-governmental organization, PECHECOPS*

method for fixing fishing possibilities introduced. This is to be based on an evaluation of the allowable catches, undertaken twice yearly during the two regulatory biological rest periods in the octopus fishery (October-November and May-June) and the fixing of the total allowable catch (TAC) for the following season. There are also measures governing the improvement of the system to regulate catches (electronic log books, vessel monitoring systems, compulsory use of landing centres arranged for artisanal fishing) and technical management measures designed to protect juveniles (biological rests, mesh size, zoning, minimum allowable size, etc.).

The plan equally has implications for the different fleets targeting octopus, and for controlling catching capacity. It envisages freezing the capacity of European cephalopod vessels, reconverting excess national capacity to other fisheries that are underexploited such as small pelagics, and freezing capacity in the artisanal fishery.

The plan also has two secondary objectives. The first is to favour the managed development of coastal and artisanal fisheries, by freezing the number of canoes and restricting artisanal activities within an enlarged, but well-defined, coastal area.

The second is to accrue value addition in the country; but this objective is not considered a priority, given the risks of overexploitation that it could provoke and given that the sustainability of production is not guaranteed. It is worth highlighting here that this takes the opposite view to that of 'fishing less, but earning more', where the creation of local added value may compensate for the decline in revenues associated with a voluntary reduction in fishing capacity. Allowing distant markets to extract added value is a model that has shown its limits: distant markets, which control value addition and demand for raw materials, in general, exert greater fishing pressure on resources.

Once this framework is in place, the Octopus Plan foresees the implementation of several different elements necessary to enable the system to be shifted towards managing catches, based on ITQs. The main advantage of this system, according to its promoters, is that it provides a genuine possibility for controlling product flows. This system should allow "the extraction of resource rent, where an equitable sharing must be guaranteed between public and private sectors", between fishers and the State.

The plan envisaged putting ITQs into place in the second quarter of 2008, beginning with the national industrial sector. For the most part, five years after its adoption, the Octopus Plan has not been implemented, apart from the two biological rest periods. It would, therefore, seem premature to say whether or not the introduction of ITQs for managing this fishery has been positive, given that the first stages of the plan, particularly the provisional evaluation designed to fix the TAC, must take place over four years, and its start date is not yet fixed.

Meanwhile, one can already note several lacunae in the plan, some of which may well prevent its success. In the first place, we must cite the inadequate analysis of key factors, notably, how the national fleet is comprised: its origin, its funding, its management, its crew composition,

FAO/S. GARCIA

Small-scale octopus pot fishermen fishing at Nouadhibouâ, Mauritania. Artisanal fishing for octopus currently provides 80 per cent of the jobs in the entire fisheries sector

all elements that could provide useful information from the point of view of introducing ITQs.

The creators of the Octopus Plan are wrong in describing the problem of overcapacity, derived from a comparison with what is happening in Europe, as a structural phenomenon which the Mauritanian government had tried, without success, to get rid of. In Mauritania foreign vessels are authorized to fish despite the provisions of the United Nations Convention on the Law of the Sea (UNCLOS), which oblige foreign fleets to fish only the surplus resources that cannot be exploited locally.

The problem of overcapacity in Mauritania is a direct consequence of the financial requirements of the government, linked to structural adjustment programmes. The government sees the financial compensation associated with the fisheries agreement with the European Union (EU), which allows a fleet of Spanish cephalopod vessels to fish in Mauritania, as a rapid way to respond to these financial needs, and the interests of the European fishing fleet override the imperative of managing the octopus resources sustainably. The question, therefore, arises as to whether the introduction of ITQs will bolster this foreign overcapacity to remain in Mauritanian waters, thanks to the possibility of acquiring quotas, to the detriment of a managed development of the local coastal and artisanal fleet.

...one of the most important questions is how to share the quotas amongst the different users.

Another weak point is the fact that, essentially, the Octopus Plan is constructed around the annual fixation of the TACs by species and fishing zones, and through quotas. As has been shown in many fisheries that use this system, notably in Europe, the TAC and quota system has its limits. Due to lobbying pressure from industrial fisheries, TACs are often set at levels above what can be caught. Another aspect is that operators tend to discard into the sea species for which they have already fished their quota: in fact, the quotas only apply to the volumes landed, and so have absolutely no limiting effect on the quantities caught and then discarded.

Finally, one of the most important questions is how to share the quotas amongst the different users. An allocation based on poor research could skew competition between sectors and compromise the priority for developing coastal and artisanal fishing. Artisanal and coastal fishing for octopus currently provides 80 per cent of the 40,000 jobs in the entire fisheries sector, and supplies work for around 40 factories and 15 small workshops producing canoes and fishing gear.

The artisanal octopus fishery also provides the best quality products for export and is recognized as the most apt for maximizing the resource rent. It has proven its competitiveness compared to industrial fleets, and it accounts for more than half of the octopus production.

However, it has failed to expand due to an arbitrary and premature distribution of TACs. In fact, in 2006, on the basis of 'historic catch records' over the period 2000-05, it had been envisaged to reserve only 4,000 tonnes of octopus out of a total TAC of 30-35,000 tonnes. On the basis of the share-out proposed, the industrial trawler owners, despite their harmful impact on resources and the marine environment (destruction of undersea hills and rocks around Cap Blanc, huge quantities of rejected fish and marine animals), get the lion's share.

Early development

The lesson to draw from this is that, in a general sense, in a fisheries sector which is still in the early stages of its development, the introduction of ITQs could constitute a hurdle to the natural development of different segments, notably the

SEBASTIAN LOSADA/GREENPEACE

Industrial fishing vessels anchored off Nouadhibou harbour, Mauritania. Overcapacity in Mauritania's fisheries is a direct consequence of the financial requirements of the government

artisanal fishing sector, by fixing them in their current state.

Another problem with the national trawler fleet, which is of foreign origin (Chinese and European), targeting octopus is the huge opacity that prevails in the sector. This opacity is not new. In 1988, the fraudulent registration of 30 Spanish cephalopod vessels was discovered, which led to the imprisonment of two ministers (responsible for fisheries and finance) and the Governor of the Central Bank.

In 2005, a study financed by German Co-operation (GTZ) found that the status of 100 cephalopod vessels was irregular. Up to now, no strong measures have been taken, and the registry and ownership of the 130 national cephalopod vessels are still hazy. Often derelict, these trawlers have been acquired secondhand by some businessmen who obtained 'acquisition permits' from their friends in high places, and for whom fishing is not a way of life, but a tool for speculation.

If the registration of vessels and the provision of licences and the conditions set for catching octopus by these trawlers are not made transparent, there is no doubt that the introduction of ITQs will only serve to favour such speculation, to the detriment of establishing sustainable fishing.

These questions, prompted by the eventual future introduction of ITQs in the Mauritanian octopus fishery, point to the need for, above all else, the planned impact study, with the participation of all the actors in the sector.

The Octopus Plan consultative technical working group, in its final synthesis report of 2004, concludes, amongst other things: "The system of user rights which is currently enjoying the most success worldwide is the ITQ system, but this system is not always feasible… experts conclude that, given the characteristics of the Mauritanian fishery, such a system is feasible if the Government decides on it (and if the actions envisaged in the first part of the plan are undertaken). It is, therefore, advisable to deepen discussions and studies so as to identify the system which is best suited to Mauritania."

For more

www.imcsnet.org/imcs/docs/mauritania_fishery_profile_apr08.pdf
Mauritania fisheries profile

www.odinafrica.org/learn-about-odinafrica/74-mauritania
IMROP

firms.fao.org/firms/resource/10132/en
Marine Resource Fact Sheet: Octopus Mauritania

Uniting for Change

At a recent conference in Recife, fishers from northeast Brazil demanded recognition of their status and rights to their territories

A conference on 'Artisanal Fishers, Protected Areas and Climate Change', was held from 31 August to 3 September 2010 at Recife, Brazil. The conference—the third conducted by the Joaquim Nabuco Foundation—was held in partnership with the International Collective in Support of Fishworkers (ICSF), as well as with the support of FACEPE, the State organization for research. The conference included a number of other partners, such as universities as well as non-governmental organizations (NGOs) like the Fisheries' Pastoral from the Catholic Church. The conference discussed gender issues too through the Fourth Pernambuco Symposium on Women and Gender Relations.

Brazil is marked by diversity in fishing, both in terms of ecosystems and socioeconomic factors.

The Recife conference differed from other events held in the region in that it promoted interactions between researchers and public managers with the key actors in the fisheries sector, namely, the artisanal fishermen and fisherwomen.

The Joaquim Nabuco Foundation is a research institution of the federal government oriented to conduct social research in the north and northeast of Brazil. Its Environmental Department has been developing research in the area of fishery since 1994. Annual seminars have been held in the last six years, either in Recife or in communities of artisanal fishermen.

The gender symposium, conducted for four years by the Regional Feminista Norte e Nordeste de Estudos e Pesquisas sobre a Mulher e Relações de Gênero (Redor), the Feminist Northern and Northeastern Regional Network for Studies and Research on Women and Gender Relations, provided a forum for scholars of gender relations to get to know the actors in Brazil's fisheries sector.

Being a continental country, Brazil is marked by diversity in fishing, both in terms of ecosystems and socioeconomic factors. While the southeast and south are subtropical climate regions influenced by cold ocean currents, the northeast of the country has a tropical climate and is bathed by the warm waters of the South Equatorial Current (Atlantic Ocean), which features low productivity. The north region, despite its tropical climate, is marked by high biological productivity, as a result of the continental water flow from the Amazon River.

The coasts of the north and northeast regions have plenty of mangroves and coral reefs, ecosystems that enrich the adjacent coastal waters and facilitate the entry of artisanal fishermen into the fisheries. These regions account for more than 80 per cent of the 850,000 fishermen legally registered with the country's Ministry of Fisheries, a figure that could well be an underestimate.

Historical invisibility

Despite the historical invisibility of artisanal fisheries in Brazil, reflected in the lack of support for the sector, it

*This article is by **Beatriz Mesquita Jardim Pedrosa** (beatriz.mesquita@fundaj.gov.br), a researcher from Joaquim Nabuco Foundation, Brazil*

provides more than 55 per cent of the total capture fishery production in the country, which, in 2009, amounted to 585,671.5 tonnes. The artisanal sector also practices sustainable ways of fishing and living with the environment, given the characteristics of the culture and lifestyle of artisanal fishing communities. The history and culture of these people have long been important aspects of the Brazilian coast.

For the artisanal fishermen and fisherwomen of Brazil, their relationship with the land and territory is very important. For them, defending their territories in face of the conflicts due to land speculation and economic activities such as tourism, has been a continuing activity. The other threats they face include overfishing, habitat degradation, pollution and climate change. The historical pressure on coastal areas comes from the population density. Today, one quarter of the country's population lives in the coastal region, resulting in a population density of 87 persons per sq km.

Brazil owes a social debt to its artisanal fisheries. This sector, although having always accounted for a large portion of fish production in the country, has been treated as marginal, while the industrial fisheries sector has received government investments and has benefited from increased domestic production of fish (until the 1990s). The artisanal sector has recently received increasing attention both from the government and academic institutions, as well as from civil society. This recognition is the result of a series of changes that occurred after the political liberalization and the 1988 Constitution, which allowed free advocacy of rights and free association of marginalized groups of society, like the small-scale fishers. Among the other changes: the emergence of fishery social movements; the action of NGOs, and the media coverage given to the fishers, mainly due to the large pressures on the coastal environment.

Despite recent institutional changes in the fishery sector in the country, culminating with the creation of the first Ministry of Fishery in 2009, the social policies and those encouraging the sector fall short of the demands of artisanal fishermen, who call for transparency, recognition and participation in preparing public policies for fisheries. The Recife conference highlighted the conflicts existing in the coastal region, the role of the government, especially the Ministries of Fishery, Aquaculture and Environment, the relationship between researchers and traditional communities, as well as experiences and positive actions to minimize the problems of the sector, such as the marine extractive reserves (MERs).

The conference brought together 300 participants from various regions of Brazil. They included scholars, artisanal fishermen and fisherwomen, public managers, NGOs and representatives of communities living in marine protected areas (MPAs). The conference saw presentations of 36 scientific papers and 12 reports on the experiences of fishing communities, under the following themes: Artisanal Fisheries and Gender; Artisanal Fisheries and Protected Areas for Sustainable Use: Territories and Conflicts; and Artisanal Fisheries and Climate Change.

For three-and-a-half days, roundtable meets were organized

FELIPE FERREIRA

The conference brought together 300 participants, including scholars, artisanal fishermen and fisherwomen, public managers, NGOs and representatives of communities living in MPAs

The Recife Letter

The Recife Letter, which was the outcome of the conference, and was presented on 3 September 2010, stressed:

- the importance of MERs along the Brazilian coast as a means for the conservation of marine resources and the survival of a diversity of cultures and ways of living of artisanal fishers;
- the role of these reserves in strengthening the fishers' organizations as each MER and reserve for sustainable development requires the creation of strong local social organizations and institutions;
- the role of MERs in determining a marine territory to be managed by organizations of fishers; and
- the role of these reserves in also fostering the growing participation of women.

The conference recommends:

- Further development of legal instruments for the recognition of the fishing territories of coastal artisanal fishing communities outside the existing marine reserves as well.
- The establishment of a permanent forum of civil society for discussing the demands of artisanal fishing communities, and monitoring government activities and projects related to the coastal and riverine areas.
- The organization of an eletronic network by civil society organizations and marine reserves' associations to exchange ideas on positive experiences at the local level, dissemination of information on violation of fishers' rights, and organization of workshops.
- The organization of a conference every two years, similar to the Recife conference, in order to discuss and monitor the development of MERs and for the exchange of experiences among them.

On fishers' rights, territories and MERs

The conference acknowledges the growing number of marine reserves for sustainable use as an important strategy for fish resources conservation, particularly in the north and northeast regions where most of the 22 already established reserves are located and many more are being planned. It also recognizes that a growing organization of local associations is essential for the establishment and development of these reserves, particularly due to the fact that as their number has been rising, conflicts with other users of the coastal areas have also grown.

In view of this, the conference calls on the government and civil society to:

- respect and support the autonomous movements of fisherwomen in order to increase their social visibility and the importance of their role in fishing, processing and trading activities;
- reinforce and expand the legal status and rights of women in fisheries, including their role in the management of MERs;
- expand health and education services, taking into account the specific characteristics of fishing activities of women in the coastal communities;
- respect fishers' rights in their territories, and establish a moratorium on the expansion of commercial shrimp farms if they negatively affect mangroves and the way of living of artisanal fishers;

in the mornings, some formed exclusively by fisher leaders—male and female—and some by researchers, technicians, government officers and NGOs to discuss issues on MPAs, particularly those for sustainable use (like MERs and reserves for sustainable use, RDS), the role of fisherwomen in those reserves and climate change. In the afternoons, there were sessions organized for presentation of research papers by fisher leaders on the main issues and on the experiences in MPAs. Group discussions on relevant points that would later form the basis for the recommendations of the conference also took place in the afternoon.

Professor Antonio Carlos Diegues, a Member of ICSF, discussed the identity of coastal communities, describing artisanal fishers: "The artisanal fisherman is someone who decides for himself how to go fishing, when to go fishing, which buddies or fellows to go fishing with. The only aspect he does not command in all this process is the commercialization. That's where he fares badly."

Researcher Lourdes Furtado from the Amazon talked about the indivisibility between land and water for the artisanal fishermen, bringing up the issue of the territories: "Land for living, water tto work".

Maria Aparecida Ferreira, a community leader from the Ibiraquera MER in the State of Santa Catarina, shared the experience of strengthening the fishermen's organizations during the process

...contd

- require the Prosecuting Office from the Ministry of Justice to be more involved in the solution of growing conflicts between artisanal fisheries and large-scale activities;
- demand that funds from environmental impact mitigation projects also benefit local coastal communities and their environment;
- ask fishers' organizations to reinforce their alliances with indigenous peoples and traditional communities participating in the National Forum of Indigenous Peoples and Traditional Communities so that they are more empowered;
- ensure that the territory of extractive reserves includes not only the marine but also the land area used by fishers;
- ask fishers' organizations and governments to promote mutual visits among extractive reserve members in order to exchange positive experiences and problems faced by the reserves; and
- promote activities complementary to fishing, in particular local or community tourism.

On recognition of artisanal fishing knowledge

- recognize and use the traditional ecological knowledge of fishermen in the planning, monitoring and running of MERs;
- ensure that scientific research and studies undertaken by several institutions benefit local communities and that the results are passed on to them;
- promote and disseminate research on traditional and scientific knowedge on MERs, and encourage researchers to send the communities a summary of their studies in an accessible format;
- incorporate the traditional knowledge of fisherwomen in the process of establishing and running MERs; and
- produce statistics on production, marketing, health and education, taking into account the specificity of women's fishing activities.

On fishing communities and climate change

Many fisher leaders have expressed their concern about the frequency and devastating powers of extreme climate changes, including intensive flooding close to the river mouths, which affects communities; change in coastal water temperature, which affects the migratory patterns of fish species, pushing some of them out into the high seas; increase in the number and severity of storms, particularly in the southern States, leading to the capsize of a greater number of fishing boats; and coastal erosion that threatens some villages. There is also concern that fishing communities will be more affected than others, although their contribution to climate change is lower than that of industrial societies.

In view of this, the conference recommends:

- More attention should be paid by the government to the impacts of climate change on fishing communities, as many of them are distant from urban centres.
- Coastal communities should develop their local institutions to cope with these events.
- Special funds should be allocated to community organizations to cope with climate change and its impacts.
- Coastal communities should share their knowledge on the impacts of these changes and ways to cope with them.
- Marine and coastal reserves can be important tools to protect the environment and communities against the consequences of climate change.

of creating a reserve: "Formalizing the reserve is just a detail; what really matters is the union of a people in search...the hardest part is to engage the community. A reserve makes the fishermen bring the responsibility upon themselves".

Fisherwoman Eliene Maria, from the National Articulation of Fisherwomen of Ceará State, described the creation of the movement, highlighting the fisherwomen's difficulty in having their work valued and acknowledged, while struggling to establish themselves against the power of the fishermen in their own community.

"If I go to a clinic, I have to state in writing that I'm a fisherwoman. But what do the women do? They say they're housewives. Today we are calling for changes in the documentation. We must state what we are; if I am a fisherwoman, I must say I am a fisherwoman," said Maria.

The non-recognition of occupational diseases by the healthcare system was also discussed to a great extent, especially in relation to the shellfish fisherwomen, as explained by Maria Jose Pacheco from the Fisheries' Pastoral: "The health policy does not take into consideration the specific health aspects of the communities, especially of the shellfish fisherwomen".

Climate change was also discussed at the conference, and MPAs were cited as a way to cope with such external changes. The need to sensitize communities to the effects of climate change was cited by fisheries engineer Jefferson Souza from the NGO, Terramar Institute: "Who among us

does not feel the bio-ecological change of some species?"

The relationship between researchers and community, and traditional and scientific knowledge was constantly discussed at the plenary sessions. That was also the topic of the presentation by Professor Maria de Los Angeles Gasalla, who focused on climate change and the vulnerability of artisanal fisheries: "It is very important to know what is going on, what is changing in our environment, in order to adapt—because adapting is what you (fishers) know how to do".

The creation of MERs—the Brazilian experience in sustainable-use MPAs—was regarded by communities and researchers as one of the most appropriate policies to minimize the existing conflicts in the coastal region that directly affect traditional communities. By definition, MERs are "protected areas aimed at sustainable use and conservation of natural renewable resources by traditional extractive populations". Such MERs are currently seen as the best institutional arrangement to ensure fishing areas, minimizing the impacts and conflicts mentioned earlier. The main difference between the MERs and other MPAs is that management is performed by a deliberative managing council of the absolute majority of users—artisanal fishermen and fisherwomen—apart from the fact that MERs may only be set up upon the request of fishing communities.

As a result, a new generation of young male and female fisher leaders is being formed who participate actively in the process of establishing MERs. This is especially important since in some places conflicts occur with commercial shrimp farms, large-scale tourist interests and mining industries, among others.

The conclusions from the Recife conference were presented to the Convention on Biological Diversity (CBD) meeting in Nagoya, Japan, in 2010 during a side-event organized by ICSF and resulted in a statement published in the "Action for Biodiversity Convention: Towards a Society in Harmony with Nature", where MERs were cited as an important stake in marine resources by the coastal communities in Brazil.

The Recife conference was conducted to open up a discussion space for the actors in artisanal fisheries in the northeast of Brazil. It resulted in the "Recife Letter", a document that summarized the sector's aspirations and claims, which was distributed to public and academic institutions, as well as to coastal communities. In addition, three demands that focused on the actual problems in the sector were produced:

- Support the struggle of the caiçara fishermen from the Jureia-Itatins Ecological Station, State of São Paulo, who are threatened with expulsion from their traditional territories, and who are demanding the creation of MERs in their territory.
- Support the struggle of fishermen and shellfish fisherwomen from the Baia de todos os Santos Bay of All Saints, in particular the struggles of the extractivist fishworkers from Iguape Bay MER against the implementation of economic projects which are harmful to fishing.
- Support the permanent rights of the families in the islands of the Sirinhaém estuary, State of Pernambuco, to have their territory of residence and work officially recognized by the State with the creation of the Sirinhaém-Ipojuca MER.

For more

www.fundaj.gov.br/
Joaquim Nabuco Foundation

icsf.net/icsf2006/uploads/publications/monograph/pdf/english/issue_99/ALL.pdf
Marine Protected Areas and Artisanal Fisheries in Brazil

www.icmbio.gov.br
Chico Mendes Institute for Biodiversity Conservation

The Costs of Certification

Despite a dramatic growth in certified fisheries, the Marine Stewardship Council has not been able to convincingly prove that it has reversed the overexploitation of global fisheries

The Marine Stewardship Council (MSC), a non-profit body founded as a joint venture between the environmental organization, World Wide Fund for Nature (WWF), and the food multinational, Unilever, is in its 15th year of existence and has certified 105 fisheries in different parts of the world, even as it has 142 other fisheries currently under various stages of assessment.

Given the stature of this organization and its importance for fisheries worldwide, it is impossible not to wonder whether MSC has helped prevent the overexploitation and depletion of the world's fish stocks. How have MSC's activities benefited different types of fisheries, especially small-scale fisheries in developing countries?

MSC was founded to reverse the crisis of overexploitation and depletion of fish stocks by offering economic incentives for sustainable fishing (see *SAMUDRA Report* No. 15, July 1996). It became an autonomous organization in 1999. Its first set of principles and criteria for sustainable fishing—to be used as a standard in a third-party, independent and voluntary certification programme—was developed in 1998. In 2006 MSC decided to make its ecolabelling programme fully consistent with the guidelines for ecolabelling of fish and fishery products developed in 2005 by the Food and Agriculture Organization of the United Nations (FAO). The most recent set of MSC principles and criteria was developed in 2010. The revised set of criteria recognizes, for the first time, the cultural context, scale and intensity of a fishery to be certified, and how the fishery observes the legal and customary rights and long-term interests of people dependent on fishing for food and livelihood.

The first fishery to be certified to MSC was the Thames blackwater herring fishery of the United Kingdom (UK) in March 2000, followed by the Australian rock lobster and the Alaska salmon fisheries, in the same year.

...has the MSC helped prevent the overexploitation and depletion of the world's fish stocks?

Then came the Burry inlet cockle and mackerel fisheries of the UK, and the hoki fishery of New Zealand, in 2001. No fisheries were certified in 2002 and 2003, but the total number of MSC-certified fisheries has exponentially grown since 2008, and has crossed the 100-mark in 2010. The 105 fisheries currently certified to MSC originate from 54 species and comprise a catch of nearly six mn tonnes, or 7.5 per cent of the global marine capture fisheries production in 2008.

Fisheries certified

Nearly 80 per cent of the fisheries were certified to MSC during 2008-2010. The range of fisheries certified as sustainable by MSC include the cod and haddock fisheries in the Arctic; the krill fishery in the Antarctic; the freshwater pike perch fishery in Sweden; the anadromous salmon fishery in North America;

*This article is by **Sebastian Mathew** (sebastian1957@gmail.com), Programme Adviser, ICSF*

the highly migratory albacore tuna fishery in the South Pacific; and the hard clam fishery in the shallow subtidal sand flat areas in Vietnam. MSC's certification has also included enhanced fisheries such as the pink and chum salmon fishery in Russia, and the mussels fishery in the UK.

The client groups who have sought MSC certification include producer organizations, fishermen's associations and co-operatives, fish processors' and exporters' associations, private companies, non-governmental organizations (NGOs), fisheries councils and governments, among others. More than 60 per cent of the client groups are producer organizations or private companies. Fisheries from 18 countries are currently certified, including from the US and Canada, as well as from 10 European countries. Most MSC-certified fisheries, as a result, are in waters bordering Europe and North America, and they account for nearly 90 per cent of MSC-certified fisheries in the world. There are about 10 certification bodies accredited to MSC, of which Moody Marine Ltd—a UK-based company with offices in North America, Scandinavia, France, China and Chile—alone accounts for 61 per cent of all certified fisheries to date (as of February 2011). There is only one certification body from a developing country accredited to MSC that has certified a fishery—the Organizacion Internacional Agropecuaria (OIA), Argentina.

Fisheries from 18 countries are currently certified, including from the US and Canada...

The main fishing method employed in MSC-certified fisheries is trawling. Over three million tonnes—or 50 per cent—of certified fishery tonnage, are caught by pelagic, mid-water or bottom trawls alone. The other 50 per cent employ fishing gear such as purse-seines, Danish seines, gillnets, trammel nets, handlines, longlines, weirs and traps, and hand or metal rakes. The fishing vessels used in certified fisheries range from beach-launched boats in the UK to Norwegian distant-water trawlers in the Antarctic.

The fisheries for herring (*Clupea harengus*) account for the largest share of a single species (1.4 mn tonnes, or over 23 per cent of total tonnage) certified to MSC, followed by over one mn tonnes of pollock. Thus, herring and pollock combined contribute to nearly 40 per cent of the total catch tonnage certified to MSC. These are mainly caught by pelagic trawlers. The smallest share in catch tonnage is UK sea bass—just seven tonnes—which is caught in intertidal waters with fixed gillnets. Thus, the principal gear in fisheries certified to MSC is trawl, and the principal species benefiting from certification to MSC are herring and pollock.

The MSC-certified fisheries products go mostly for human consumption, although smaller quantities are also converted into animal feed. Thus, some of the certified UK herring and Norwegian Antarctic krill end up as feed for aquaculture. The products from certified krill fisheries also include pharmaceuticals and dietary supplements. While some of the fisheries products from certified UK, Irish and Norwegian fisheries are exported to Africa, Asia (including China), Latin America and the Caribbean islands, most of the fish from certified fisheries—especially whitefish—are traded within, or between, Europe and North America. It is unclear, though, if fish from certified fisheries that are exported to developing countries are being sold as MSC-certified to the final consumer.

Economic benefits

As regards the economic benefits from the MSC ecolabel, some fishermen claim a premium price for fisheries certified to MSC in the domestic market. British fishers claim a 25 per cent premium on their sea bass in the London market. Australian fishers claim a 30 to 50 per cent premium

NGUYEN DIEU THUY/WWF VIETNAM

Ms Nga (centre), former Vice Director of Ben Tre Department of Agriculture and Rural Development (DARD), Vietnam, along with co-operative members at the clam field

on certified small-scale mulloway, cockle, golden perch and yellow-eyed mullet in the domestic market. The American Albacore Fisheries Association (AAFA) reportedly claims a premium of 35 per cent on tuna exports to the EU market.

While some MSC-certified fisheries are able to maintain their market share and gain access to new ones, others—for example, Alaska salmon—have been able to move up from low-value to high-value markets. Further, fisheries such as the Australian rock lobster fishery have, purportedly, used the MSC label as a bargaining tool in gaining tariff reduction in the EU seafood import market. There are also reported benefits accruing to the First Nations communities in Canada from certified shrimp and salmon fisheries, according to assessment reports. As far as the financial costs incurred in undertaking pre-assessment, full assessment, chain-of-custody assessment, and annual audits are concerned, little information is disclosed to the public. The fees charged by certifiers for their services are kept confidential between the client and the certifier. Assessment fees, in some cases, are paid from government grants and charities.

Although developing countries contribute to 70 per cent of global marine capture fisheries production, their share in MSC-certified fisheries is quite low: 188,000 tonnes or just three per cent of the total certified tonnage. The developing-country fisheries that are certified comprise hake caught by deep-sea trawlers in South Africa, Patagonian scallop caught by factory trawlers in Argentina and hard clam gathered by small-scale fishers in Vietnam.

To what extent have small-scale fisheries benefited from the MSC certification programme? From 1996, MSC has been trying to certify small-scale fisheries in developing countries (see *SAMUDRA Report* No. 15, July 1996). The MSC unit of certification does not make a distinction between small- and large-scale or industrial fisheries. It can, however, be estimated that about 345,000 tonnes, or slightly less than 6 per cent of total certified tonnage, comprise fish originating from small-scale fisheries, which, by inference, refer to fish caught from rivers, bays, and nearshore waters by vessels under 10 m in length, employing gear such as nets, handlines, baited creels, pots on line, trolls, fishwheels, traps and hand or metal rakes.

The small-scale fisheries certified to MSC are highly skewed in favour of sockeye, chum, chinook, coho and pink salmon in Alaska (287,000 tonnes), and pink and chum salmon from rivers in Russia (47,000 tonnes). Thus, salmon account for 97 per cent of all MSC-certified fisheries that can be categorized as small-scale. Additionally, there are modest quantities of mackerel, cod and haddock caught by vessels below 10-m length from coastal waters in Norway that employ nets and lines as part of a fishing fleet comprising both large and small vessels. Finally, there is the hard clam fishery of Vietnam—the only MSC-certified small-scale fishery in a developing country—which accounts for nearly 9,000 tonnes of catch.

Greatest challenge

The greatest challenge, however, has been certifying small-scale fisheries in the tropical belt. The first small-scale tropical fishery from a

NGUYEN DIEU THUY/WWF VIETNAM

A member of a fisheries co-operative in Vietnam displaying her certificate for verification of payment

developing country to be certified to MSC was the rock lobster fishery in Baja California, Mexico, in 2005. The certification expired in 2009, and is now under reassessment. Currently, the hard clam fishery of Vietnam is the only case of a tropical fishery certified to MSC. An initiative to certify a fleet of small, beach-based vessels engaged in the oil sardine fishery of the south Indian State of Kerala, for example, has been going on since 2008 without showing any sign of even reaching the stage of full assessment. Attempts to certify the pole-and-line and handline fisheries of the Maldives have been going on, unsuccessfully, since 2009. They also attracted criticism about the certification process and associated financial costs from the Maldivian delegation during the FAO Committee on Fisheries (COFI) meeting in Rome in February 2011. The risk-based framework (RBF), developed by MSC in 2008 with the idea of certifying 'data-deficient' fisheries, especially small-scale fisheries in developing countries, has not led to the certification of any such fishery so far.

MSC is also facing flak from environmental organizations such as Greenpeace, the Pew Environment Group and Oceana in regard to assessment, certification and re-certification of some of the fisheries. The certification of the Bering Sea/Aleutian Islands pollock fishery in the US, the sockeye salmon fishery in British Colombia, Canada, krill and toothfish fisheries in the Southern Ocean, the hoki fisheries in the Pacific, and the Barents Sea cod fishery in the northeast Atlantic, for example, have all come under criticism from environmental organizations. The sockeye fishery, interestingly, was certified to MSC in 2010, two years after it was placed by the International Union for the Conservation of Nature (IUCN) on its Red List of threatened species.

Unilever, one of the founders of MSC, seems to have later parted ways with MSC, after making a public commitment in 1996 to buy all its fish from sustainable sources by 2005. Even in 2010, only 56 per cent of the fish sold by Unilever—that too only in Europe—originated from MSC-certified sources.

Emotional bridge

On 20 March, 2002, speaking at a conference organized by the European Association of Communications Agencies and the United Nations Environment Programme (UNEP), Chris Pomfret, Business Director, Frozen Foods, Birds Eyewall's of Unilever, expressed unhappiness that "a significant emotional bridge between people's concerns over sustainability and their buying habits has yet to be built." He went on to say that the MSC logo was "non-motivating and obscure for most people," and challenged the

claim that protection of fish stocks is linked to purchasing habits.

A recent annual report of Unilever (Unilever Annual Review 2008, http://annualreport08.unilever.com) makes no mention of procuring fish from sustainable sources, but only of sourcing tea and palm oil from such sources. The US supermarket giant Wal-Mart has now moved in to fill the vacuum left by Unilever. In 2006, Wal-Mart took a pledge to source all its wild-caught fresh and frozen fish for the US market only from MSC-certified fisheries by 2011.

On completing 14 years of existence, has MSC, to some degree, reversed the crisis of overexploitation and depletion of fish stocks through offering economic incentives, as was its intention when it was set up in 1996? Except for some anecdotal information, we have little knowledge of the economic incentives that are actually offered by MSC certification to the producer. Nor do we know much about the costs of certification incurred by each certified fishery to infer if the economic benefits to the producer outweigh the costs.

According to FAO's "State of World Fisheries and Aquaculture 2010", the share of fully exploited, overexploited, depleted or recovering fish stocks has increased to 85 per cent in 2008, compared to 70 per cent in 1996, when MSC was founded. In spite of a dramatic growth in MSC-certified fisheries in recent years, whether MSC has, in fact, been reversing the crisis of overexploitation and depletion of global fisheries is, therefore, a moot point. The onus on certified fisheries to remain sustainable is high, which is perhaps the greatest impact of MSC.

It remains to be seen, though, if the recent spurt of fisheries certified to MSC can be sustained in future. Most certifiable fisheries within the framework of the MSC standard are likely to be exhausted soon, and the real challenge for MSC will be when poorly managed fisheries are able to get their act together and rise up to the MSC standard. There are no such signs as yet of that happening.

The certification standard, however, raises serious doubts about the relevance of the MSC methodology and process, especially for tropical, multi-species fisheries. It is ironic that while small-scale fisheries, particularly those that employ selective, non-trawl fishing gear and practices in multi-species, tropical fisheries, hardly benefit from MSC certification, several industrial trawl fisheries in the temperate and polar waters have been certified to MSC as sustainable, thus challenging the common perception of trawling as a high-impact, destructive fishing technique, and small-scale fishing as low-impact and sustainable.

It remains to be seen, though, if the recent spurt of fisheries certified to MSC can be sustained in future.

The MSC experience creates the impression that fish stocks are well managed in industrial, temperate-water fisheries, and ill managed in tropical marine fisheries. It remains to be seen how far the 2010 revised MSC certification standard would address this issue. It also remains to be seen how the social elements will be assessed under the new standard, especially in regard to the cultural context, and how a fishery acknowledges the legal and customary rights of fishing communities and the long-term interests of people dependent on fishing for food and livelihood.

For more

www.msc.org
Marine Stewardship Council

icsf.net/icsf2006/uploads/publications/dossier/pdf/english/issue_56/ALL.pdf
FishStakes

msc.org/business-support/net-benefits
Fisher's Stories- Net Benefits

Small-scale Fisheries Upfront

The recent meet of the Committee on Fisheries of the Food and Agriculture Organization of the United Nations had a special focus on small-scale fisheries

Small-scale fisheries was pretty much part of the flavour of the 29th Session of the Committee on Fisheries (COFI 29) of the Food and Agriculture Organization of the United Nations (FAO). Indicative of this was the fact that States, while reporting on the progress made in the implementation of the Code of Conduct for Responsible Fisheries (CCRF) and related instruments, had ranked addressing the interests of small-scale fisheries in marine and inland fisheries management plans quite high on their priority list. From being ranked fifth in 2005, and fourth in 2007 and 2009, it was ranked second. Regional fisheries bodies also reported on accommodating the interests of small-scale fishers.

...in view of the important role played by small-scale fisheries, FAO should continue to give priority to the subsector...

A sizeable delegation of about 25 persons representing small-scale fishworker and support organizations, including the World Forum of Fisher Peoples (WFFP), the World Forum of Fish Harvesters and Fishworkers (WFF), the International Collective in Support of Fishworkers (ICSF) and the International Planning Committee on Food Sovereignty (IPC), were present at COFI. At stake for them was the adoption of an international instrument on small-scale fisheries by COFI, a demand that has been pending since the 2008 FAO conference on small-scale fisheries in Bangkok, Thailand, titled "Securing Sustainable Small-Scale Fisheries: Bringing Together Responsible Fisheries and Social Development". To seek greater support for, and debate on the content and scope of, such an instrument, WFFP, WFF, ICSF and IPC organized a lively side event during lunchtime on 3 February (see box), prior to the discussion on Agenda Item 10 on small-scale fisheries.

In the end, civil society efforts met with qualified success. During discussions on Agenda Item 10, COFI agreed that, in view of the important role played by small-scale fisheries, FAO should continue to give priority to the subsector and ensure adequate visibility for it, particularly in relevant international forums that deal directly or indirectly with these fisheries. COFI also approved the development of a new international instrument on small-scale fisheries to complement the CCRF, drawing on relevant existing instruments.

Countries' support

The proposal to develop a new instrument was supported by over 20 countries, including Brazil, Norway, Thailand, South Africa, Morocco, Namibia, Russia, Chile, Mauritania, Indonesia, Oman, Mozambique, Afghanistan, Mexico, the United States (US), Angola, Algeria, Mauritius, Cameroon and Ivory Coast. Two members—Bangladesh and Maldives—expressed reservations about such an instrument. There was also support from some members for the setting up of a subcommittee on small-scale fisheries. Several developing countries also stressed the

This article is by ***Chandrika Sharma*** *(icsf@icsf.net), Executive Secretary, ICSF*

need for increased funding to support small-scale fisheries-related assistance programmes.

There were specific issues raised in the interventions made by States on the options before COFI for supporting small-scale fisheries.

Norway said it would support international guidelines on small-scale fisheries to address the rights and interests of fishers, including of women, as well as an international support programme. The instrument, Norway suggested, could take account of the "Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security" adopted by the FAO in 2004 as well as the "Voluntary Guidelines on responsible governance of land and natural resources tenure", now being developed by the FAO.

Russia welcomed an instrument on small-scale fisheries, especially a set of guidelines that are recommendatory and voluntary in nature. These guidelines could focus on social and cultural rights and economic development, and be based on human-rights principles, including those related to the human rights of indigenous peoples. The guidelines could develop the concept of small-scale fisheries and criteria for defining it, as well as offer protection to the access rights of indigenous people. They could also include sport fishing and coastal fishing, and focus on issues such as labour protection, safety at sea and gear-related issues, said Russia.

Brazil said it fully endorses a global assistance programme for small-scale fisheries, with full consideration to food security, poverty alleviation and gender. It stressed the importance of taking the question of gender into consideration in all initiatives related to the promotion of the sustainable development of small-scale fisheries. Given the importance of small-scale fisheries, including from an environmental sustainability perspective, and the higher levels of vulnerability their communities are exposed to, it expressed support to the development of an international instrument. Brazil noted that this should take the form of an International Plan of Action (IPOA) as this carried greater political weight, but that it was open to exploring any other avenues that COFI might deem appropriate.

South Africa also supported the development of a negotiated international instrument to guide and manage small-scale fisheries, to complement the CCRF. Such an instrument could provide COFI, and, therefore, the United Nations with a better tool to protect the socioeconomic rights of small-scale fishers, contributing to the eradication of poverty, and helping to work towards the sustainable use of natural resources. South Africa further suggested that such an instrument be developed with the participation of affected parties.

Thailand, supporting an international instrument, suggested that microcredit and vessel insurance schemes should be considered under the global assistance programme for small-scale fisheries.

Chile highlighted the importance of improving governance and transparency, and of adopting an ecosystem approach to fisheries. It extended support to an international instrument on small-scale fisheries, underlining that the diversity within small-scale fisheries should not be used as an excuse to do nothing.

IISD/EARTH NEGOTIATIONS BULLETIN

The 29th session of COFI approved the development of a new international instrument on small-scale fisheries to complement the CCRF

Small meet, large attendance

The Side Event organized jointly by WFF, WFFP, ICSF and IPC titled "What COFI Should Do: Agenda Item 10 on Small-scale Fisheries", was well attended, to say the least. A panel comprising WFFP, WFF and ICSF presented civil society perspectives on the action that COFI needs to take to secure small-scale fisheries. They made a strong case for an international instrument with a rights-based approach, which incorporates economic, social, cultural, political and civil rights, and which has a specific focus on women. The panel also included Rolf Willmann of the FAO Fisheries and Aquaculture Department, who presented the proposal prepared by the FAO for a Global Assistance Programme for Small-scale Fisheries, for comments and feedback.

The discussion was opened for debate soon after. Taking part in the discussion were several national delegations, including from India, Mauritania, Japan, the EU, Brazil, Norway, Spain, the US and Chile. Present too were representatives from the African Union, the World Bank and several multilateral and intergovernmental organizations, and fishworkers' and fishing industry representatives.

Among most of the developing countries that attended, there was consensus that a global programme of work guided by an international instrument geared towards poverty alleviation and food security would be a boon for small-scale fisheries development in their countries.

Chile noted that the sector was highly diverse and complex, and that such an initiative would require defining small-scale fisheries more clearly.

The US voiced concerns about basing fisheries policies and instruments on the basis of size alone; "size is a complicated criteria", it was noted.

Some delegations questioned the need for a new instrument. The EU made a particularly strong intervention, stating that a focus was needed at the national and regional levels to implement instruments that are already available, and that national policies were needed to improve the livelihoods of coastal populations. This viewpoint was countered by those who felt that, despite the number of existing instruments, small-scale fisheries were not getting the attention they deserved. Many of these instruments, notably the CCRF, do not pay specific attention to small-scale fisheries, it was pointed out. There are many new challenges being faced to confront which a new international instrument is needed, it was argued.

Two impassioned interventions were made by representatives of fishers from France and Spain. The French accused the European Commission of adopting a position that was both backward and incoherent, while the Spanish stressed that this space at the FAO should not just focus on poverty and hunger, and that small-scale fisheries all over the world share many problems and a common vision—and there is an urgent need for small-scale fishers to organize themselves.

The discussions at the side event were a precursor to the formal debate in COFI, serving to draw attention to the perspectives and aspirations of civil society and to take forward the debate on the demand for an international instrument.

Mexico, stressing the importance of participatory management, training, organization and alternative jobs, said that there is need to extend support for realizing the human rights of small-scale fishers. Indigenous people should have priority to fishery resources, it noted. It supported an international instrument, especially an IPOA, linked to a national plan for assisting small-scale fisheries.

India said that small-scale fisheries was the most important agenda item for COFI 29. It, however, expressed concern that no progress had been made in taking forward the suggestion made during COFI 28 on the setting up of a subcommittee as an exclusive platform for small-scale fisheries. On the international instrument, India cautioned that should COFI decide to develop it, the scope should be carefully developed so that it does not become a barrier to trade. India also noted that it did not want an overemphasis on human rights in any such instrument as such commitments already existed in the constitutions of most countries.

The Islamic Republic of Iran, supporting a subcommittee on small-scale fisheries, noted that addressing the problems of small-scale fisheries is not merely a technical exercise.

Maldives said that, keeping in mind its experience with a third-party ecolabelling certification, it is uneasy about an international instrument. Such an instrument might lead to costs of production going up. It, therefore, supported India's proposal to have a subcommittee on small-scale fisheries.

Bangladesh also favoured a subcommittee on small-scale fisheries.

New Zealand said a focus on human rights would considerably extend the mandate of COFI; the focus should be on fisheries issues, it stressed. Assistance to small-scale fisheries should be provided to generate wealth and remove people from poverty. For this, coherent partnerships, avoiding duplication of work between donors, are needed. New Zealand further pointed to the several instruments that already exist, which can be used to support small-scale fisheries. If anything at all, it favoured a chapter dedicated to small-scale fisheries in the CCRF.

Costa Rica also opined that human-rights issues were beyond the mandate of COFI. El Salvador, speaking on behalf of seven Central American countries, said it is important to support the human rights of those

involved in small-scale fisheries, as also mentioned in the declaration from the regional consultative workshops organized by FAO. It called for regional action plans on small-scale fisheries, as well as specific programmes, including for inland fisheries. It also drew attention to issues of indigenous peoples. The need for a regional approach, as through the Bolivarian Alliance for the Peoples of Our Americas (ALBA), was reiterated by Venezuela.

The US wanted greater attention to be paid to small-scale fisheries, while ensuring greater clarity on what this constitutes. The mere size of fishing vessels as a criterion, for example, is not enough. The proposed instrument should focus on developing countries, it stressed, with due attention paid to social, economic, cultural and rights-based themes. Planning and management of risks and disasters, and plans to cope with climate change to reduce vulnerability of small-scale fisheries to such risks, is important. The US supported an IPOA or guidelines as a preferred way forward, rather than opening up the CCRF. The IPOA or guidelines can be an associated document to the CCRF, the US proposed.

The European Union (EU) said though small-scale fisheries is an important subsector requiring systematic attention, it was not convinced that a new international instrument is needed. Rather, effective implementation of existing instruments, such as the CCRF, is important. However, the EU said it will not block any emerging consensus to develop an international instrument on small-scale fisheries for developing countries.

Japan recognized the importance of small-scale fisheries in both developed and developing countries and the fact that they are often socially disadvantaged. Given the diverse realities facing the sector, it called for a case-by-case response to deal with issues facing the subsector. Small-scale fisheries, it further noted, also has negative impacts on fisheries resources. There is need for integrating small-scale fisheries into international fisheries management systems to ensure policy coherence, and to promote bottom-up approaches like participatory co-management.

Canada stressed the importance of an ecosystem and a value-chain approach to fisheries, and of managing small-scale fisheries as part of an overall approach. It also pointed to the need for engaging all stakeholders in the management process.

The civil society statement, following the interventions by States, was read out by Zoila Bustamente, the President of the Chilean artisanal fishworker organization, CONAPACH, on behalf of WFFP, WFF, ICSF and IPC.

The statement noted that over 20 countries had supported an international instrument on small-scale fisheries to complement the CCRF. Such an instrument should guide regional and national plans of action. It should be global in scope and should recognize the social, economic, cultural, civil and political rights of small-scale, artisanal and indigenous fishing communities.

Such an instrument, as well as a global programme of assistance for small-scale fisheries, should be developed and implemented in consultation with civil society. This would go a long way in ensuring a better and more dignified future for small-scale fishing communities, the statement concluded.

There was concern, particularly among small-scale and artisanal fishworker and indigenous peoples' groups from Europe and Canada, that the focus would be mainly on developing countries, in keeping with the interventions by the EU and the US. Civil society groups agreed, however, to continue advocating for an instrument that is global in scope, focusing also on issues facing small-scale and artisanal fishing communities as well as indigenous fishing communities in countries of the North.

For more

www.fao.org/cofi/cofi2011/en/
Twenty Ninth Session of the Committee on Fisheries

www.iisd.ca/FAO/cofi/cofi2011/
ENB Reporting on COFI

JAPAN'S TSUNAMI

Devastating Tsunami Drives Away Fish

On the day of the tsunami that hit Japan on 11 March 2011, Mexican fishermen reported a stellar fishing day and it is being reported that the tsunami drove fish in their direction.

Thousands of sardines, anchovies, striped bass and mackerel surged along the coast of Acapulco, packed so tightly that they looked like an oil slick from above.

Delighted fishermen rushed out in wooden motor boats to scoop the fish up in buckets.

The fishermen attributed the strange phenomenon to the unusual currents unleashed by the tsunami, but experts couldn't be sure.

"It would fall into that category where you would love to make the connection, but who knows?" said Rich Briggs, a geologist with the US Geological Survey.

Sadly, the tsunami has wiped out fishing harbours and ports—and not just in Japan.

In Japan, the port of Minamisanriku was destroyed and Misawa was devastated. The fishing hub Ofunato was also badly hit, as was the fishing town of Rikuzentakata, and Hakodate.

It has been reported that the commercial fishing harbour of Crescent City in California was destroyed. The town was still recovering from a tsunami in 1964. 53 vessels were damaged, including 15 that sank, said Alexia Retallack, a spokeswoman for the state Department of Fish and Game.

The damage in Santa Cruz Harbour is estimated at nearly £10 million. The harbour is housing 58 commercial fishing vessels that were not able to leave the harbour, said Lisa Ekers, director of the Santa Cruz Port District.

Meanwhile, the explosions and leaks from the Fukushima nuclear plant have worried consumers about whether it is safe to eat Japanese fish,for fear of radiation poisoning.

www.worldfishing.net/news101/japanese-tsunami-hits-fisheries

ORGANIZATIONAL PROFILE

The African Confederation of Small-scale Fisheries Professional Organizations

Despite its economic, social and cultural importance in Africa, small-scale fisheries remain the poor relation of development policies. The looting of marine resources through illegal practices is now jeopardizing the survival of fishing communities, and is one of the greatest threats to future generations.

National organizations grouping small-scale fishing professionals are being established in various African countries, but alone, they are unable to stop the scourge and influence fisheries policies.

Aware of the urgency of solving these issues, after several years of dialogue between West African small-scale professional organizations from Mauritania, Senegal and Guinea, the African Confederation of Small-scale Fisheries Professional Organizations (CAOPA) or the *Confédération africaine des Organisations professionnelles de la Pêche artisanale* was launched in March 2010, in Banjul, Gambia. Founding members included men and women representing the national small-scale fisheries professional organiztions of Senegal, Gambia, Mauritania, Guinea-Bissau, Guinea, Cape Verde, Sierra Leone, Liberia, Togo and Ivory Coast.

CAOPA's vision is "to develop an African small-scale fisheries organizations' dynamic". Its main objectives are "to add value to the fish resources they live from, in order to ensure the well-being of their communities, and to get involved in the design and implementation of fisheries policies."

CAOPA is there to "defend the material and moral interests of its members; to have their legitimacy to fulfill this role recognized by governments as well as by national and international institutions; to be involved in defining policies for responsible and sustainable fisheries, which contribute to fighting poverty, but also to improve women's working conditions and involvement in decisionmaking."

First and foremost, CAOPA wants to become and remain "a force of proposal for sustainable fisheries in the face of States and all other national and international development partners".

In September 2010, CAOPA members participated as observers to the first Conference of African Fisheries and Aquaculture Ministers, organized by the New Partnership for Africa's Development (NEPAD), in Banjul. In 2011, these efforts were pursued with the participation of a CAOPA delegation to the FAO Committee on Fisheries, where they participated in daily briefings organized by the NEPAD for African delegations. CAOPA also participated in the World Social Forum in Dakar, co-organizing an event on "Fisheries and Food Security" and presenting their views on foreign direct investments in fisheries, in a meeting looking at 'sea grabbing' issues.

BOOKSHELF

Johannes, R.E., 1981. Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia. University of California Press, California.

Words of the Lagoon" is an account of the pioneering work of a marine biologist to discover, test and record the knowledge possessed by native fishermen of the Palau islands of Micronesia.

When Palauans fish, land-based protocol is suspended. Harsh criticism or 'words of the lagoon'—*tekoi l'chei*—may be hurled by man or boy of any rank at anyone, chief included, whose efforts do not measure up on the fishing grounds. No one, irrespective of rank, may express offence at being scolded under such conditions. The Palauans' sensitivity to marine ecology and their centuries-old use of conservation methods employed only recently by industralized societies are meshed in the traditional values of the culture that gives a special place to 'Words of the Lagoon'.

VERBATIM

I was drunk on as addictive a thing as was ever poured from a bottle. I sang to myself, The sea, the sea, the crazy old black sea.

—DIANE WILSON
IN "AN UNREASONABLE WOMAN"

The State of World Fisheries and Aquaculture

According to the "The State of World Fisheries and Aquaculture 2010" (SOFIA), capture fisheries and aquaculture supplied the world with about 142 mn tonnes of fish in 2008. Of this, 115 mn tonnes were used as human food, providing an estimated apparent per capita supply of about 17 kg (live-weight equivalent), which is an all-time high.

Aquaculture accounted for 46 per cent of total food fish supply, a slightly lower proportion than reported in SOFIA 2008, owing to a major downward revision of aquaculture and capture-fishery production statistics by China, but representing a continuing increase from 43 per cent in 2006.

Outside China, per capita supply has remained fairly static in recent years as growth in supply from aquaculture has offset a small decline in capture-fishery production and a rising population. In 2008, per capita food fish supply was estimated at 13.7 kg, if data for China are excluded.

In 2007, fish accounted for 15.7 per cent of the global population's intake of animal protein and 6.1 per cent of all protein consumed. Globally, fish provides more than 1.5 bn people with almost 20 per cent of their average per capita intake of animal protein, and 3 bn people with at least 15 per cent of such protein. In 2007, the average annual per capita apparent fish supply in developing countries was 15.1 kg, and 14.4 kg in low-income food-deficit countries (LIFDCs).

In LIFDCs, which have a relatively low consumption of animal protein, the contribution of fish to total animal protein intake was significant—at 20.1 per cent—and is probably higher than that indicated by official statistics in view of the under-recorded contribution of small-scale and subsistence fisheries.

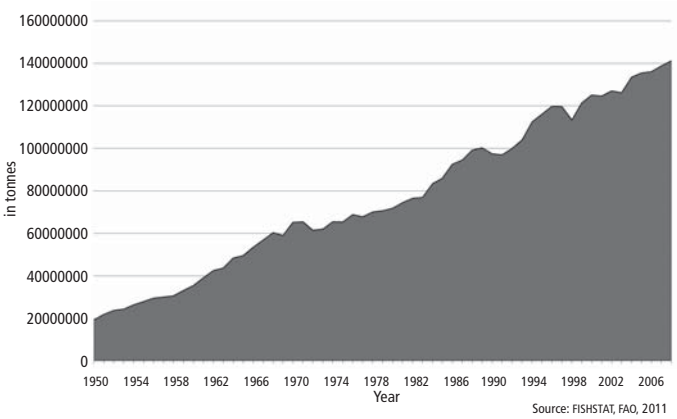
China remains by far the largest fish-producing country, with production of 47.5 mn tonnes in 2008 (32.7 mn and 14.8 mn tonnes from aquaculture and capture fisheries, respectively). These figures were derived using a revised statistical methodology adopted by China in 2008 for all aquaculture and capture-fishery production statistics and applied to statistics for 2006 onwards. The revision was based on the outcome of China's 2006 National Agricultural Census, which contained questions on fish production for the first time, as well as on results from various pilot sample surveys, most of which were conducted in collaboration with FAO.

Global capture-fisheries production in 2008 was about 90 mn tonnes, with an estimated first-sale value of US$93.9 bn, comprising about 80 mn tonnes from marine waters and a record 10 mn tonnes from inland waters. In 2008, China, Peru and Indonesia were the top producing countries. China remained by far the global leader with production of about 15 mn tones.

While aquaculture production (excluding aquatic plants) was less than one mn tonnes per year in the early 1950s, production in 2008 was 52.5 mn tonnes, with a value of US$98.4 bn. Aquatic plant production by aquaculture in 2008 was 15.8 mn tonnes (live-weight equivalent), with a value of US$7.4 bn, representing an average annual growth rate in terms of weight of almost eight per cent since 1970.

The fish sector is a source of income and livelihood for millions of people around the world. Employment in fisheries and aquaculture has grown substantially in the last three decades, with an average rate of increase of 3.6 per cent per year since 1980. It is estimated that, in 2008, 44.9 mn people were directly engaged, full-time or, more frequently, part-time, in capture fisheries or in aquaculture, and at least 12 per cent of these were women. This number represents a 167 per cent increase, compared with the 16.7 mn people in 1980. It is also estimated that, for each person employed in capture fisheries and aquaculture production, about three jobs are produced in secondary activities, including post-harvest, for a total of more than 180 mn jobs in the whole of the fish industry.

World Capture Fisheries and Aquaculture Production (1950-2008)



Source: FISHSTAT, FAO, 2011

Moreover, on average, each jobholder provides for three dependants or family members. Thus, the primary and secondary sectors support the livelihoods of a total of about 540 mn people, or 8 per cent of the world population. Employment in the fisheries sector has grown faster than the world's population. In 2008, 85.5 per cent of fishers and fish farmers were in Asia, followed by Africa (9.3 per cent), Latin America and the Caribbean (2.9 per cent), Europe (1.4 per cent), North America (0.7 per cent) and Oceania (0.1 per cent).

China is the country with the highest number of fishers and fish farmers, representing nearly one-third of the world total. In 2008, 13.3 mn people were employed as fishers and fish farmers in China, of whom 8.5 mn people were full time. In 2008, other countries with a relatively high number of fishers and fish farmers were India and Indonesia.

Analyses indicate that the global fishing fleet is made up of about 4.3 mn vessels and that this figure has not increased substantially from an FAO estimate of a decade ago. About 59 per cent of these vessels are powered by engines. The remaining 41 per cent are traditional craft of various types, operated by sails and oars, concentrated primarily in Asia (77 per cent) and Africa (20 per cent). These unmotorized boats are engaged in fishing operations, usually inshore or on inland waters. The estimated proportion of non-powered boats is about four per cent lower than that obtained in 1998.

Of the total number of fishing vessels powered by engines, the vast majority (75 per cent) were reported from Asia and the rest mostly from Latin America and the Caribbean (eight per cent), Africa (seven percent) and Europe (four per cent). The proportion of countries where the number of vessels either decreased or remained the same (35 per cent) was greater than that of those where it increased (29 per cent). In Europe, 53 per cent of the countries decreased their fleet and only 19 per cent of countries increased it.

Most of the stocks of the top 10 species, which account in total for about 30 per cent of the world marine capture-fisheries production in terms of quantity, are fully exploited. The two main stocks of anchoveta (*Engraulis*

contd...

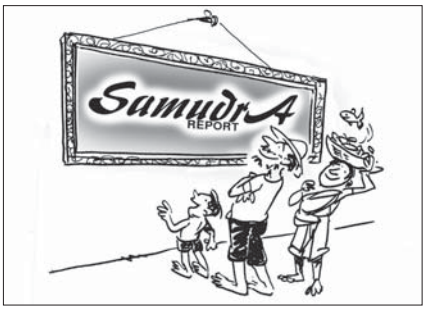
SOFIA 2010 *...contd*

ringens) in the Southeast Pacific and those of Alaska pollock (*Theragra chalcogramma*) in the North Pacific and blue whiting (*Micromesistius poutassou*) in the Atlantic are fully exploited. Several Atlantic herring (*Clupea harengus*) stocks are fully exploited, but some are depleted. Japanese anchovy (*Engraulis japonicus*) in the Northwest Pacific and Chilean jack mackerel (*Trachurus murphyi*) in the Southeast Pacific are considered to be fully exploited. Some limited possibilities for expansion may exist for a few stocks of chub mackerel (*Scomber japonicus*), which are moderately exploited in the Eastern Pacific, while the stock in the Northwest Pacific was estimated to be recovering. In 2008, the largehead hairtail (*Trichiurus lepturus*) was estimated to be overexploited in the main fishing area in the Northwest Pacific. Of the 23 tuna stocks, most are more or less fully exploited (possibly up to 60 per cent), some are overexploited or depleted (possibly up to 35 per cent) and only a few appear to be underexploited (mainly skipjack).

FLASHBACK

Editorial from *SAMUDRA Report* No. 1

Here, at last, in the spring of 1988, is the English edition of our little journal—born to link all those who feel concerned for the fate of fishworkers around the world: small-scale fishermen, fish processors and vendors, millions of men and women who so often must struggle to subsist but whose work is so important for mankind.



We are not a mega-size conglomerate; we are simply a network of supporters —presently located in 18 countries.

You will find that this first edition of *SAMUDRA Report* in English has a strong bias towards India—where, on Kerala's sun-drenched beaches, our organization was born. But rest assured that in our next edition, the focus will be on Africa and in the issue after that, on Latin America...

So to all our friends, near and far, I send you greetings and our best wishes for a good catch!

—Pierre Gillet, 15, March 1988

INFOLOG: NEW RESOURCES AT ICSF

ICSF's Documentation Centre (dc.icsf.net) has a range of information resources that are regularly updated. A selection:

Videos/CDs

Heading Troubled Waters
Directed and filmed by Himanshu Malhotra. Produced by the Gulf of Mannar Biosphere Reserve (GOMBR) Trust and UNDP-GEF

This film highlights the importance of the project on "Conservation and Sustainable Use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity" of the UNDP-GEF, of which the GOMBR Trust is the implementing agency. The film highlights the importance of the rich biodiversity of the region and the threats it faces due to certain fishing practices. It brings out the successful interventions of the project in relation to protection, research and livelihood options.

Bio-cultural Community Protocols
Produced by UNEP and Natural Justice

This documentary brings together materials relating to rights-based approaches to conservation, customary use of biological resources and well-being.

Publications

Putting into Practice an Ecosystem Approach to Managing Sea Cucumber Fisheries. Rome, FAO. 2010. 81pp.

Artisanal and industrialized fishers from more than 40 countries harvest over 60 species of sea cucumbers. These low-food-chain resources play important roles in nutrient recycling and sediment health in marine habitats. Owing to ease of capture and vulnerable biological traits, sea cucumbers have been easily overexploited in most countries, sometimes to local extinction. This document summarizes general management principles and a general framework for developing and implementing a management plan.

Fisheries in Sri Lanka: Anthropological and Biological Aspects. Volume 1: Anthropology of Fishing in Sri Lanka by K. Sivasubramaniam. Kumaran Book House. Chennai. 2009.

This series deals with the arrival of immigrants into Sri Lanka, their settlements along the coastal belt and the interior of the island and their contribution to the formation of marine and freshwater fishing communities of the country. It discusses the origin and arrival routes of the immigrants and the identifiable locations of their landing and formation of coastal fishing communities. An attempt has been made to identify, as far as possible, the immigrants, their racial origin, ethnicity, religion and the castes and clans and the factors that contributed to their involvement in fishing activities and the creation of fishing communities in the coastal and inland areas of Sri Lanka. Successive waves of immigrants from coastal areas of India introduced distinctly different methods of fishing, contributing to district-wise differences in the development of fishing technologies.

ANNOUNCEMENTS

MEETINGS

United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea - 12th meeting, New York
20 to 24 June 2011

The 12th meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea will be held at the UN headquarters in New York from 20 to 24 June 2011. Pursuant to paragraph 228 and 231 of General Assembly resolution 65/37 of 7 December 2010, in its deliberations on the report of the Secretary-General on oceans and the law of the sea, the Consultative Process at its 12th meeting will focus its discussions on "contributing to the assessment, in the context of the United Nations Conference on Sustainable Development, of progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges".

ASEAN-SEAFDEC Conference: "Fish for the People 2020: Adaptation to a Changing Environment", Bangkok, Thailand
13-17 June 2011

The conference aims to develop the "Decade Resolution and Plan of Action on Sustainable Fisheries for Food Security in the ASEAN Region (Towards 2020)" by addressing concerns on the fisheries situation and issues that may impede the sustainable development and contribution of fisheries to food security. www.ffp2020.org

WEBSITE

Women, Gender Equality and Climate Change

www.un.org/womenwatch/feature/climate_change

Womenwatch is the central gateway to information and resources on the promotion of gender equality and the empowerment of women throughout the United Nations system, including the UN Entity for Gender Equality and the Empowerment of Women (UN Women), the UN Secretariat and regional commissions.

OLIVIER BARBAROUX

Endquote

Sun lights up the hill behind, mist rises on the channel ahead.
Push the boat, push the boat!
The night tide has gone out, the morning tide is coming in.
Chigukch'ong, chigukch'ong, oshwa!
Untamed flowers along the shore reach out to the far village.

A new day warms itself, the bigger fish swim near the surface.
Pull the anchor, pull the anchor!
In twos and threes the seagulls rise, then glide low and rise again.
Chigukch'ong, chigukch'ong, oshwa!
The fishing rods are ready, where did we put the wine bottle?

From the east a sudden wind comes; it ripples the water's surface.
Raise the sail, raise the sail:
It is time to leave East Lake and try our luck in the West.
Chigukch'ong, chigukch'ong, oshwa!

—Yun Sondo (1587 - 1671)