

No. 30

December 2001

SAMUDRA

REPORT

INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS



INDIAN SHARK BAN
FISHERIES IN ISLAMIC STATES
DISTANT-WATER FISHING IN RUSSIA
TAWA DAM IN INDIA
INDIAN OCEAN CONFERENCE
FISH TRADE AND WTO
ECOSYSTEM-BASED FISHERIES MANAGEMENT
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Comment

Jaws: the ban

India is the second largest producer of elasmobranchii (sharks, rays and skates) in the world, after Indonesia. Shark fin from India is exported to Chinese consumers around the world, while, domestically, shark meat is consumed in the hinterland of south India.

In 1999, the total production of elasmobranchii was around 70,000 tonnes, about 75 per cent of its maximum potential yield, as estimated by the Central Marine Fisheries Research Institute of India. Yet, on 11 July 2001, India's Ministry of Environment and Forests (MoEF) banned all fishing of sharks, finding it expedient to bring all elasmobranchii under Schedule I of the Wild Life (Protection) Act, 1972.

That blanket ban was a terrible blow for over 120,000 Indian fishers. Not surprisingly, they reacted vehemently. A Joint Action Council, backed by the National Fishworkers' Forum and the South Indian Federation of Fishermen Societies, began a spirited campaign against the ban, which included a sit-in by nearly 500 fishermen before the MoEF.

Was such a ban ever warranted? Indian seas are home to at least 57 species of shark, of which 18, according to the IUCN Red List, are in the 'Lower Risk' category and four are in the 'Vulnerable' category. Just one freshwater species, Ganges shark, is in the 'Endangered' category, but it is no longer found. Significantly, none of the Indian species is listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Protection is meant for species that are endangered or threatened with extinction. The initial rationale for the ban, therefore, is unclear. Only four species in the 'Vulnerable' category and one in the 'Endangered' category can, rationally speaking, be brought under the purview of the Wild Life (Protection) Act. Why then were all species of shark banned initially? Were Indian officials quick to apply different criteria?

Consider how other countries have dealt with the issue of protecting elasmobranchii. The United States has imposed a ban on dusky shark, sand tiger (grey nurse) shark, night shark, white shark and smalltooth sawfish; the Philippines, on whale shark and manta ray; Maldives, on whale shark; the United Kingdom, on basking shark; Australia, on grey nurse shark, speartooth shark, northern river shark, whale shark and great white shark; and Malta, on white shark, basking shark and manta ray. All these are 'Vulnerable', 'Endangered' or 'Critically Endangered' species, according to IUCN.

These arguments seem to have hit home. On 5 December 2001, the MoEF, in another Notification, further amended Schedule I of the Wild Life (Protection) Act. Now, only nine species of shark and ray—listed 'Vulnerable', 'Endangered' or 'Critically Endangered' by IUCN—are on the protected list. This list, incidentally, also includes speartooth shark, which is not found in Indian waters. This is a far cry from the earlier blanket ban. India thus narrowly avoided the dubious distinction of becoming the first country in the world to protect all sharks, irrespective of their status in the IUCN Red List.

This entire episode is a wake-up call. Fishers, rather than feeling complacent, should push for sensible fisheries management plans for effort control and limited entry, to ensure that shark (and other) fisheries are sustainably managed. Implementing FAO's International Plan of Action for Conservation and Management of Sharks (IPOA-SHARK), elaborated within the framework of the Code of Conduct for Responsible Fisheries, can help this process.

The analysis on the ban in this issue of *SAMUDRA Report* (see page 3) was written before the 5 December Notification. It was, in fact, based on a presentation to the affected fishers as part of their campaign. Nonetheless, the analysis clearly establishes the need for considered and responsible actions, not ill-conceived trigger-happy decisions.

An ill-thought ban

This article was written before the Government of India's recent revocation of the total ban on shark fishing

The ban on shark fishing under the Wild Life (Protection) Act, 1972, by the Ministry of Environment and Forests (MOEF), Government of India, came as bolt from the blue for the entire fisheries sector of India. In a Gazette notification dated 11 July 2001, the government has included 60 different items caught or removed from the sea under Schedule 1 of the Wildlife Protection Act. The items include certain types of coral, a wide range of mollusc species, including *chanks* (conch shells), sea horses and the giant grouper.

However, the most prominent inclusion is the entire class of elasmobranchii that includes all species of shark, rays and skates. The inclusion of these items under Schedule 1 of the Act means that they can not be caught or harvested. Neither can they be traded or made into any product for sale. Mere stocking of these species in any form is a crime.

The entire ban process has been something of a mystery. Even now, there are no details on the basis of the ban and how the MOEF has concluded that these 60 items are endangered. There was no consultation whatsoever with fishermen's organizations and NGOs working in the sector. We understand that even the fisheries departments of the State governments were not consulted.

Whether the central scientific institutions in fisheries were consulted is not clear at the moment. Some press reports indicate that they did not recommend any ban and have questioned its wisdom (see *The Hindu* Trivandrum edition, 5 October 2001, page 5).

Even some officials we contacted in the Fisheries Division, Department of Animal Husbandry and Dairying, Ministry of

Agriculture in Delhi appeared unaware of the ban as late as end September.

The ban itself came to light some time in September, when the Coast Guard started harassing the fishermen of Thoothoor in Tamil Nadu, who have the only fleet in India dedicated to shark fishing. It was the Coast Guard that informed the fishermen about the ban and not the State fisheries departments. Subsequently, in early October, shark fin exporters in Chennai got wind of the problem when their consignments to Singapore were held up by the Customs authorities. Only then did news about the ban spread rapidly.

According to newspaper reports, the ban is the result of lobbying by environmental groups. An NGO called Reef Watch Marine Conservation and *Sanctuary Asia*, an ecology magazine published from Mumbai, have been particularly mentioned (see *Times of India*, 4 August 2001 and 11 October 2001).

Most media comments refer to the whale shark, the subject of an international protection campaign by environmental groups. True, the campaigners for ban on whale shark fishing had been in touch with fishermen organizations like the National Fishworkers' Forum (NFF), but there was no talk about all shark species or the entire family of elasmobranchs. The newspaper reports also seem to refer to problems of shark fishing in the Andamans, where unauthorized foreign fleets are said to be catching shark and discarding the carcass at sea, after removing the fins (*Times of India*, 11 October 2001; *Sanctuary Asia* April issue: article by Mitali Kakkar and Bittu Sahgal).

Cruel practice

There appears to be considerable unhappiness over the cruel way sharks are

slaughtered and the environmental pollution caused by dumping the shark carcass at sea. It seems unlikely, however, that this alone could have been the rationale for the ban on shark fishing all over India's Exclusive Economic Zone (EEZ) of 2,000,000 sq km.

We can only take a stand based on our own understanding of shark resources and the current level of exploitation. 1977 saw the publication of the first estimate of India's potential catch of fish. Subsequently, it was revised in 1991 by a committee appointed by the Government of India (Working Group on Revalidation of the Potential Marine Fisheries Resources of the EEZ of India, Ministry of Agriculture, Government of India).

The total fish resource harvestable is estimated to be 3,900,000 tonnes. Of this, 2,200,000 tonnes are available within a depth of 50 m, and the rest are spread out in the deeper waters. The following is the information available on the potential catches of elasmobranchii (sharks, rays and skates): up to 50 m depth: 65,000 tonnes; beyond 50 m: 103,000 tonnes; total: 168,000 tonnes (*The maximum potential yield has since been revised downwards by the Central Marine Fisheries Research Institute, CMFRI, to 96,000 tonnes—Editor.*)

The approximate break-up of the available elasmobranch resources in depths up to 50 m along the Indian coast is as follows (No information is available on individual categories):

| | |
|---|---------------|
| Northeast (W.Bengal, Orissa and Andhra) | 11,000 tonnes |
| Southeast (Tamil Nadu and Pondicherry) | 19,000 tonnes |
| Southwest (Kerala, Karnataka and Goa) | 11,000 tonnes |
| Northwest (Maharashtra and Gujarat) | 24,000 tonnes |
| Total | 65,000 tonnes |

Another piece of information from the report of the working group referred to earlier, is that there are 31,600 tonnes of pelagic shark that can be harvested in the

open ocean (beyond depths of 200 m). This is part of the 103,000 tonnes of elasmobranchii available beyond 50 m depth.

Importantly, the above figures are not for the total stock available but for what can be safely harvested for each species, depending on its longevity and reproductive capacity. The percentage of elasmobranch stock (or any other species) that can be safely harvested is not mentioned. We do not know enough to question the basis of these figures and, until more information is available, we have to take them at face value.

A few words on how these estimates are made may be useful. There are two agencies responsible. The CMFRI is responsible for collecting information on the catches landed all over India for the purpose of resource estimation. It does this through a sampling method that is accepted internationally.

Based on the figures for the fish caught, and other scientific information, CMFRI has methods to estimate the resource availability in areas where fishing occurs. For the deeper waters, where fishing activity is low, the resource estimates are made by the Fisheries Survey of India (FSI), whose vessels are involved in surveying different parts of the Indian seas.

The final resource estimates are based on CMFRI and FSI putting together their respective information and working out a common estimate. Though there can be many questions about the quality of data and the assumptions made by these scientific institutions, it is acknowledged that the resource estimates in India are a reasonable approximation and are much better than those available in many other developing countries.

Detailed published information on the catches is somewhat difficult to come by. From various reports, it appears that the total catch of elasmobranchii is around 70,000 tonnes.

Catch figures

In 1999, the following were the catches of elasmobranchii as per CMFRI figures: shark: 42,778 tonnes; rays: 23,064 tonnes; skates: 2,670 tonnes; total: 68,512 tonnes.

The current catches are only half of the potential catch of 168,000 tonnes in the Indian EEZ. Importantly, elasmobranch catches have been steadily increasing since 1950, when it was only 17,000 tonnes. Thus, the overall figures give the impression of a fish resource that is still underexploited.

A detailed study of the landings between 1987 and 1999 by CMFRI (CMFRI Special Publication No. 70: *Pelagic Sharks in the Indian Seas: Their Exploitation, Trade, Management and Conservation* by P. P. Pillai and Baiju Parakkal, August 2000) reveals the following:

- The average catch of elasmobranchii during 1987-99 was 61,591 tonnes. The landings of sharks during the same period was 41,483 tonnes.
- The peak landings of elasmobranchii was in 1998—more than 70,000 tonnes. The peak landing for shark was 47,279 tonnes the same year.
- While there has been some year-to-year fluctuations, the overall trend during the period is one of a steady increase.
- The major share of landings is in Gujarat and the northwest coast. During the period, the catches

increased in all States, except in Maharashtra and Kerala, where there was a decline.

- While some caution is required, there is scope for increased exploitation of sharks in deeper waters.

However, aggregate figures can conceal a number of problems. Within the overall picture of an underexploited fishery, one can perhaps find individual species or areas that are overexploited. Even a single category of shark is made up of a number of individual species. The actual number of species in Indian waters is not known exactly. Around 49 species are detailed in CMFRI reports.

However, only six of these are found in abundance, 12 in moderate abundance and 22 in limited quantities (From Hanfee F. 1999. *Management of Shark Fisheries in Two Indian Coastal States: Tamil Nadu and Kerala*, quoted in Pillai and Parakkal, op cit).

Without information on each species, it will be difficult to determine whether or not there is overfishing of any of the species.

Another aspect to be considered is that, compared to many short-lived species, sharks are long-lived and produce very few offspring. Thus, they are more

vulnerable to overfishing. One has to, therefore, adopt a cautious approach to their exploitation.

While not ruling out overfishing of individual species, there seems to be no concrete evidence of elasmobranchii being overfished as a whole. The issue of elasmobranchs being endangered does not arise at all. In fact, there is a strong case for improving the catches in the deep, especially of pelagic shark.

Targeting of shark has been limited traditionally to some fishermen's groups. However, shark and other elasmobranchs form part of the by-catch of the trawl fishery, sometimes in large quantities. They are also found as non-targeted catches in other gear like gill-nets. The following are the various groups that exploit elasmobranchs.

- (i) Traditional fishermen using *kattumaram* with hand lines go for shark fishing seasonally in parts of the east coast. The *kattumaram* fishermen on the west coast in Kanyakumari and Trivandrum also used to do so, but this has declined with the coming of trawling.
- (ii) Motorized canoes like the *nava* of Andhra Pradesh go seasonally for shark fishing, with Kakinada being a major centre. Bottom-set gill-netting as well as hooks-and-line are used in different parts of India.
- (iii) Motorized *kattumaram* (including fibre reinforced plastic or FRP *teppa*) between Vishakapatnam and Puri go shark fishing with hooks-and-line seasonally.
- (iv) Traditional long-line fishermen of Malabar in north Kerala go shark fishing in certain locations like Elathoor.
- (ii) Shark and other elasmobranchii are caught as by-catch by trawlers all over the country. To a large extent, this is an unavoidable feature.
- (vi) The only fleet that can be said to be specialized in shark fishing is the mechanized vessel fleet of the Thoothoor area in Kanyakumari District, Tamil Nadu. Around 500 to 600 mechanized vessels (32-45 ft long) use long-lines and go shark fishing all over the west coast of India, from Kanyakumari to Okha in Gujarat. This fleet, employing around 6,000 fishermen, came up in the late 1980s and is perhaps India's only genuinely deep-sea fleet. Though a part of the fleet has diversified to use large-mesh drift-nets for seer and hand-lines for perches, shark fishing remains the most important source of income. Though this fleet started with bottom long-lining for shark on the continental shelf, especially between 100 m and 300 m depth, some of the units now fish with pelagic lines in the open ocean, where the depth is more than 1,000 m and where pelagic sharks are plentiful.
- (vii) The catch in Gujarat today comprises over half the total landings, and shark is caught seasonally by a large number of vessels with a variety of gear, including gill-nets, hooks-and-line and trawls. The actual number of fishermen involved is likely to be significant.
- (viii) Sri Lankan fishermen with their multi-day fishing vessels fish for both tuna and pelagic shark in the deeper waters, using a combination of long-line and gill-nets. They operate seasonally in the Gulf of Mannar and the Arabian Sea. Some also go to the Andamans. Though strictly illegal, this fishing has not been opposed by the Indian fishermen as it is done by relatively small vessels using labour-intensive and selective fishing gear and techniques. However, the Coast Guard catches some of these vessels and the fishermen are detained for months in India. It must be mentioned that shark meat enjoys a good market in Sri Lanka, while the fins are exported to Singapore and Hong Kong.
- (ix) Foreign vessels from many other countries, mostly industrial and large-scale vessels, poach in Indian

waters. The extent to which they target or incidentally catch shark is not known.

- (x) A note on shark fishing in the Andamans is perhaps needed. For long, there has been the issue of shark finning (finning is the practice of removing the fin or fins from a shark and discarding the remainder of the shark or the carcass into the sea). Some of the local boats in the Andamans are also believed to indulge in such destructive practices. For them, the main problem is the lack of a market for shark meat in the Andamans and the problem of transporting salted shark meat to the mainland (salted shark meat is not accepted as cargo by ships). It is possible that some of the foreign fleet involved in illegal fishing in the Andamans is also dumping the shark carcasses back into the sea, as they do not want to carry the voluminous, low-value meat with them.

Thus, shark fishing is important for a significant number of fishermen all over India, despite it being a niche fishery. Sharks are valuable mainly for their fins, which enjoy a good market in the Far East, where it is an essential component of Chinese cuisine. The fins are cut off and dried. The dried fins are then cut by the merchants according to certain standard

practices, before being exported to Singapore and Hong Kong, where they are processed to extract fibres that are then used for shark fin soup. Chennai is the main centre for the export of shark fins, with supplies coming from all over the Indian coast.

The exact value of the Indian shark trade is difficult to obtain. Shark fin export from Chennai is an informal business, devoid of the formalities followed by other seafood exporters, like recording the sale. Often, couriers carry shark fins to Singapore by air. Thus, the statistics of the Marine Products Export Development Agency (MPEDA) on export of shark fins is likely to be a considerable underestimate.

Shark fin rays, which are the final products, are not normally produced in India, even though the technology has been developed by the Central Institute of Fisheries Technology (CIFT). One or two plants for rays are said to exist but whether they are successful is not known. Business interests in Hong Kong and Singapore are perhaps not keen on the final product being made in India.

Shark meat, as well as the meat of other elasmobranchii like rays, are salted and sold in the domestic market. The main market is Kerala, where the hill areas have a long history of consuming salted and dried fish products. Shark meat is a delicacy here and command high prices.

Hence, all the salted shark meat finds its way to the dry fish markets of Kerala like Athirampuzha, Kottayam, Changanassery, Alwaye and Thalassery. Mangalore is a major assembling centre for shark meat for catches from Karnataka and the upper west coast.

The meat of juvenile shark is consumed fresh in many coastal areas, especially by the poor. Shark liver oil is extracted by simple local methods and used for oiling wooden canoes as well as for pharmaceutical purposes.

From the above, it is apparent that the immediate impacts of the ban are several. The approximately 15,000 to 20,000 fishermen who depend almost entirely on shark fishing will lose their source of livelihood. This will affect, in turn, their families and dependents. The total population affected is likely to be between 150,000 and 200,000. Tamil Nadu and Gujarat will be the most affected States.

Around 100,000 fishermen will see a reduction in their seasonal and occasional income from shark and elasmobranchii. This will obviously affect their families and dependents, numbering anywhere between 500,000 and 1,000,000. The States affected will include Andhra Pradesh and Orissa.

Thousands involved in drying and processing shark and in the domestic and international trade will be affected. Large numbers of consumers in Kerala's uplands and plantations will be deprived of an important item of diet. The Mangalore dry fish market that assembles all the salted shark meat from Karnataka, Goa, Maharashtra and Gujarat will also be affected.

The long-term impacts will be even worse. The ban is a setback for the development of deep-sea fishing in India. Tuna and pelagic shark are the main offshore resources not exploited by Indian vessels, except to a limited extent by the Thoothoor fishermen.

For long, the Government of India has been trying to develop offshore fishing, but with little success, despite large

vessels and foreign technology through charters, joint ventures, etc. These have only had negative effects on coastal fishing. However, just when the Thoothoor fishermen, like the Sri Lankans, are showing the potential for an indigenous offshore fleet, using appropriate technologies and labour-intensive methods, comes the ban on shark fishing. This will perhaps be the biggest setback. The beneficiaries will be the poachers.

To some extent, India's neighbouring countries may also benefit. Some varieties of shark, especially pelagic species, are likely to be moving across boundaries. Therefore, the ban may benefit those who fish in the high seas or in neighbouring waters.

The ban will also have a negative effect on the populations of prey fish, which are the target of most fishermen. Not fishing an apex predator like the shark will decimate prey fish and seriously affect the livelihood of most fishermen. The actual impact is, however, difficult to assess at the moment.

Information on other species and items banned, like molluscs, is still somewhat hazy at the moment. However, the same problem of lack of consultation and disregard for the consequence of the ban on the livelihoods of marginalized sections is obvious.

Even scientific officers are still searching for the common and local equivalents of the zoological names of molluscs. These mollusc varieties include a large number of items that are collected by poor people near the seashore in a variety of ways for sale as handicrafts and decorative items. Included in the banned list are varieties of *chanks* (conch shells), which are caught by fishermen of Ramnad District of Tamil Nadu.

Ban on conch shells

The ban on *chanks* came to light in an interesting manner. A consignment of *chanks* that had been imported from Sri Lanka (proof of an obvious demand-supply gap), was unexpectedly seized by the customs in October (see *The Statesman* and *The Times of India*, 20 October 2001). This created a panic in the

trade and the Bengali press was full of stories of the ban. It is not clear, however, what the ban achieves by restricting imports from Sri Lanka.

The plight of the *chank* fishermen and those involved in the making of products from *chanks* is worth a special mention. While *chanks* are collected in many parts of the country like Orissa and even Gujarat, the most important *chank* fishery, which has a tradition extending over centuries, is the *chank* fishery of Ramnad District. Specialized skin divers risk their lives to collect a variety of *chanks* from the sea bottom. Ironically enough, this fishery is a regulated fishery, with the Tamil Nadu Fisheries Department licensing the fishermen as well as the traders. Only specified sizes of *chank* can be harvested from the sea and marketed. Interestingly, the use of oxygen cylinders while diving is prohibited.

Equally interesting is that while the production of *chanks* is concentrated in parts of Tamil Nadu, the main market is in West Bengal. The Hindus of Bengal put a great cultural value on *chanks*, which explains the extremely high annual demand. *Chanks* are used during the *puja* festival. A number of products, involving a large number of craftsmen, are made out of *chanks*, and married women wear bangles made of *chanks*.

To sum up, shark and elasmobranchs are, by no stretch of imagination, endangered in India. Potential dangers of overfishing can be tackled through normal fishery regulations, like fleet and gear control, and closed seasons and areas. The ban is clearly unscientific and arbitrary, and will have major negative consequences. ❧

This article by V.Vivekanandan (vivek@siffs.org), Chief Executive, South Indian Federation of Fishermen Societies (SIFFS), is a revised version of a paper presented at a fishermen's meeting at Nagercoil, Tamil Nadu, India, organized by the National Fishworkers' Forum on 1 November 2001

India

Trading amidst constraints

Trade in fish and fishery products in most States of the Organization of the Islamic Conference faces varied constraints

The fisheries sector of the member States of the Organization of the Islamic Conference (OIC) is considered a very important sector for their economic, social and nutritional development. The fisheries resources can be drawn from marine and inland waters, as well as from aquaculture in fresh and marine waters. If rationally and scientifically exploited, these fisheries could play, as they already do in some of the States, a much more important role in meeting the increasing demand for food, employment opportunities and in activating the economies of several member countries.

Marine waters border most of the Islamic States from all sides. These States are adjacent to waters of three oceans: the Atlantic, the Pacific and the Indian Oceans and several seas, among them, the Mediterranean, the Red Sea, the Caspian and the Black Seas. They also have access to some of the most important rivers including the Nile, the Brahmaputra, the Tigris, the Euphrates, as well as huge natural and man-made reservoirs and inland lakes of Africa and Asia.

Various other important water bodies exist in the regions and sub-regions where fisheries have high possibilities for aquaculture. The Exclusive Economic Zones (EEZs) expands the OIC member States marine waters to potentially rich international fishing grounds.

Fishing and fisheries contribute more than any other animal production activity to the protein intake in most of the developing regions, including most of the OIC member States. Fish and fishery products are important for the food security of many coastal populations. But, by all accounts, many wild marine and freshwater resources are on the decline

and this is a source of growing economic and social problems.

The rapid growth of the past decades in the exploitation of those sources has taken its toll: during the 1950s and 1960s, the global catch from commercial fishing grew three times faster than the world population. Production growth was slower afterwards; currently, as global fishery production (catch and aquaculture) oscillates around 100 million tonnes per year, per capita supplies keep declining. These trends have an obvious impact on prices: during the last decade, seafood prices have risen almost 4 per cent a year on average, rendering a traditionally cheap source of protein much less accessible to the poor.

The blame for the depletion of aquatic resources has been put mostly on two factors:

- the development of excess fishing capacity with respect to existing fish stocks and their natural growth rates; and
- the deteriorating condition of fish stocks due to the pollution of sensitive water areas (inland and marine waters).

Small-scale fisheries in developing countries played a comparatively minor role beyond their communities, although, at times, the pressure of growing local demand contributed to the overexploitation of coastal waters.

Large-scale sector

The development of fishing capacity has taken place mostly in the large-scale (industrial) and medium-scale fishing sub-sectors. Since the early days of international development assistance, the

main objective of fishery development projects has been to increase fishing efficiency and income levels through motorizing boats, improving gears and investment in harbour development and other infrastructure facilities. The sector and its manpower grew, also drawing workers from rural to urban areas.

At the same time, large numbers of small-scale fishermen had no access to that assistance, finding it increasingly difficult to survive in an overexploited environment. In this perspective, the crisis of fisheries is also a crisis of livelihoods.

The implications go far beyond dwindling fish stocks available to small-scale fishermen. Globally, fishing provides a source of living for about 100 million fishermen and their families, the majority of them the world's poorest. They are among the one billion people—nearly a fifth of the global population—for whom fish is the main source of animal protein. The scarcity of resources is leading to clashes between neighbours, as fishing fleets stray across maritime borders, after depleting stocks in their own waters.

It is estimated that 74 per cent of the world's fish harvest is still caught in the wild, and the harvesting has reached, and in many areas exceeded, sustainable rates. This, in part, is because the means

of exploitation has become so efficient. Fishing fleets use sonar, radar, aircraft and satellites to track shoals. Winches and motors handle drift-nets typically containing more than 18 tonnes of fish. This enables trawlers to increase not only catches but the discards—species that are inadvertently netted but are unwanted and consequently discarded.

The issue of discards is a very disturbing one since it results in a very large wastage of fishery resources from discarding unwanted catches at sea. FAO estimates that from a range of 18-39 million tonnes of fish per year may be discarded at sea to catch about 50 million tonnes of fish suitable for human consumption. Most of the discards are dead fish thrown overboard back into the sea, mainly from shrimp trawlers.

The 50 Member States of the OIC exported in 1995 an estimated total of 1.3 million tonnes of fish and fishery products valued at US\$ 4.1 billion. They imported in the same year 889,000 tonnes, valued at US\$ 838 million, which makes these States, as a whole, net exporters.

Chief exporters

The main exporters are Indonesia, with 499,000 tonnes, valued at US\$ 1.7 billion, followed by Morocco, which exported 234,000 tonnes, valued at US\$ 787 million, while Malaysia exported 189,000 tonnes, valued at US\$ 335 million. As far as the

main importers are concerned, Malaysia is the main importer, with 258,000 tonnes, valued at US\$ 324 million, followed by Indonesia, with 159,000 tonnes, valued at US\$ 101 million, and then Nigeria, with 158,000 tonnes, valued at US\$ 80 million.

With regard to the imports and exports of the OIC Member States by the seven commodity groups, in 1995 these States exported mainly crustaceans and molluscs, at a value of US\$ 2.6 billion, while the main imports were of fish—fresh, chilled or frozen—for the value of US\$ 421 million or at a favourable trade surplus of US\$ 2.2 billion.

Trade trends in fish and fishery products in the main OIC Member States vary considerably from one sub-region to the other. In the South and Southeast region, Malaysia has a very high local consumption, along with the coastal areas and large urban centres, estimated at about 30 kg average per capita, while the Maldives has the highest annual fish supply in the world, 126 kg per person. Half of the fish landed in the market is fresh, while more frozen fish is being marketed. Fish utilization is also characterized by greater production of a wide range of value-added products or preparations, for both national and international markets.

Post-harvest losses of fish have been substantially reduced in recent years, as a result of improved infrastructure for landing, storage, transport and marketing. However, considerable seasonal losses in value still occur in some fisheries. Losses from oversupply are increasingly being channelled into feed for aquaculture.

Economic growth and policies of open trade have meant that the fish trade has expanded significantly over the last decade.

Some countries, particularly the new members of the World Trade Organization (WTO), such as Malaysia, are reported to be currently lowering their tariffs, following the outcome of the General Agreement on Tariffs and Trade (GATT) Uruguay Round. The percentage of catch going into international trade has

increased steadily in this sub-region and Indonesia is currently ranked third amongst the most important regional exporters.

In the sub-Saharan African sub-region, fish is a popular food item and provides an important part of the total animal protein intake. Fish is often consumed in small amounts with daily meals. Fish consumption in the region may be more important than it really is, but it is believed that the per capita consumption is declining due mainly to rapid population growth, a drop in imports aggravated by the weaker purchasing power of some countries and the decreasing share of domestic production retained for local markets, as artisanal fisheries increasingly turn to the more lucrative export markets.

Constraints to inter-regional trade include high transport and storage costs, poor handling practices, limited distribution networks and a lack of harmonization and proper enforcement of fish trade regulations. Tariff barriers and other trade restrictions persist among countries belonging to customs union. The main trade is in exports of small pelagics from the northwest coast southwards to the Gulf of Guinea countries.

Although the regional trade balance has been positive in value since the mid-1980s, sub-Saharan Africa remains a net fish importer in volume terms. Many countries have a small but growing export trade in fresh and frozen demersal fish and crustaceans, mainly to the European Union (EU), but the overall positive trade balance is based on the relatively large export volumes of only a handful of countries. Reliance on the EU market could cause difficulties in the future, as trade is liberalized and some exporters from Africa may lose their preferential status.

Varying consumption

In the Near East and North African region, fish consumption varies widely among countries. It averages from 1 kg per person per year in Afghanistan to about 40 kg per person per year in Yemen. The general average, however, is 5 kg annually. Fish are usually consumed fresh, particularly demersal fish, cephalopods and shellfish. Small

Mediterranean pelagics, such as sardines and anchovies, are used in fresh, canned or salted form, and tuna is mainly canned. In Yemen and Oman, small pelagic fish are also dried on the beach, to be used as animal feed, and in Morocco and Iran, they are utilized for producing fishmeal and oil.

In general, the region does not contribute substantially to international fish trade, although Morocco is a major exporter of fish and is expected to increase its exports as the European demand for high-value fish increases and the Moroccan national fleet expands. Its sardine-processing sector, which contributes substantially to the Moroccan economy, has incorporated the latest technology to allow competitive production at world prices. The other countries, Tunisia, and Mauritania, export mostly high-value fish, with some cephalopods and crustaceans, to European markets and Japan. A number of countries have a modest expanding trade in fresh and frozen fish to Europe and inter-regional trade to Saudi Arabia, Bahrain, Qatar and the United Arab Emirates.

The medium-term outlook for global demand of food fish is largely determined by population growth, changes in per capita income and the pace of urbanization. The interplay of these factors was considered in a review prepared by FAO for the Conference on Sustainable Contribution of Fisheries to Food Security held in Kyoto, Japan in 1995. At 1990 constant real prices, the review gave a conservative estimate of the demand for food fish that was in the range of 110 and 120 million tonnes (live weight) for the year 2010, compared with 75 million to 80 million tonnes in 1994-95.

Projections indicate that North America, Oceania and Europe will have the highest per capita demand, at more than 20 kg per year (live weight equivalent), but that the large populations in Asia mean that region could account for about two-thirds of total demand.

Fishmeal is the main product derived from the fish used for non-food purposes, for use as feed in poultry and aquaculture. Thus, it is expected that the

demand for, and the supply of, fish for reduction will remain stable at between 30 million to 33 million tonnes over the next few years. Therefore, the projected demand for fish for all uses is in the order of 140 million to 150 million tonnes for 2010.

Per capita supplies of food fish increased in both 1994 and 1995. However, it is still not clear that growth in aquaculture production can compensate for the possible stagnation in aggregate food fish production from capture fisheries.

Aquaculture is becoming established outside its traditional confines of Asia and Europe, although absolute growth is still faster than elsewhere. It has become popular because it provides a source of income rather than simple subsistence, and can be incorporated into local agriculture systems to diversify the production base. There is considerable potential for further expansion and, under favourable conditions, production could be 39 million tonnes by 2010.

Aquaculture in industrialized economies has normally targeted high-priced species but, although this trend continues, the cost reductions achieved now make feasible the industrial or technically sophisticated culture of large volumes of comparatively low-value species as a substitute for 'white fish'. In the low-income countries outside Asia, the growth of commercial aquaculture will be stimulated by easier access to wealthy consumers in high-income countries and by the adoption of macroeconomic policies aimed at providing an environment conducive to small-scale entrepreneurs.

The two main constraints on aquaculture are environmental degradation and the availability of land and water. The first constraint sometimes results from the mismanagement of aquaculture facilities, and, secondly, from competition with other land and water uses, particularly in agriculture, and from urban encroachment into coastal zones. These factors will limit growth.

Worldwide harvest

As for marine capture fisheries, FAO estimates, with some reservations, that the potential worldwide harvest ranges from

about 85 million to 90 million tonnes under current fishing regimes, rising to 100 million to 105 million tonnes, if management systems for capture fisheries are improved in all oceans and if there is some reduction in discarding. The possible increase in sustained production is between 10 million to 15 million tonnes through the rebuilding of stocks and better management measures.

No significant additional supplies are expected from inland capture fisheries. Therefore, considering the increase in supply for human consumption, capture fisheries and aquaculture supply may just meet demand at constant real prices (of 1990) in the year 2010.

International interest in the trade of fish and fishery products will be stimulated by the various agreements concluded at the establishment of the WTO. The expanded membership of this organization and the ongoing discussions aimed at further liberalization of trade will facilitate the flow of fish and fish products to markets with strong purchasing power. Any official links between environmental protection, particularly resource conservation, and international trade will affect future trade volume and destination.

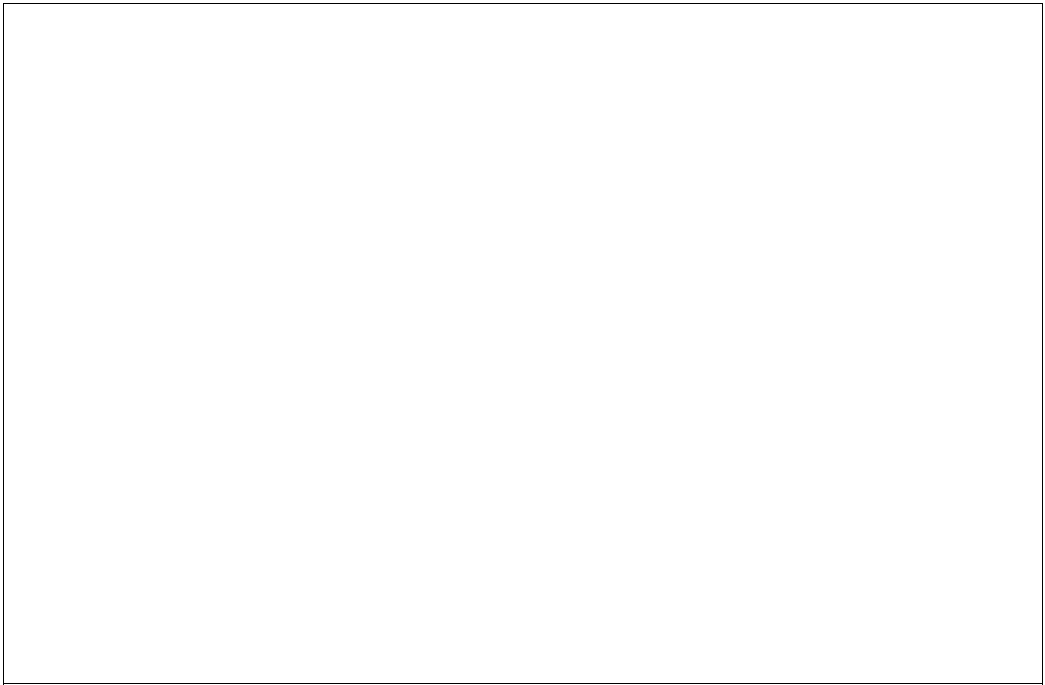
It is expected that the average world per capita fish consumption by about the year

2000 will continue to be 13.5 - 14 kg. However, the real price of fish will have increased somewhat and regional consumption and production patterns will have been shifted. Total production for human consumption should have increased to about 85 million to 87 million tonnes (live weight equivalent).

Consumption is likely to remain at current levels, but at somewhat higher real prices in traditional industrial economics. By the year 2010, per capita consumption may have grown in Southeast Asia and the Near East and North Africa, and declined in sub-Saharan Africa and South Asia. The shift in production patterns will come from the increased share of food fish supplies from aquaculture. Substantial progress will have been made on matching fishing capacity to available stocks and discarding will have been substantially reduced, although catches will not yet have markedly increased as a result.

Low imports

In sub-Saharan Africa, per capita consumption will probably continue to decline due to low imports and inability of local production to keep up with population growth. The low fish consumption in South Asia will most likely continue and may increase somewhat in Southeast Asia. In the Near East and North Africa, per capita consumption will increase slightly but



remain low. Oil-based economies will continue to import fish. Most local production, except in Morocco and Oman, will be domestically consumed.

Overfishing is not a recent issue. However, it has become serious and affects capture fisheries in developing and developed countries. Unless effective action is taken, overfishing will get worse. Population pressure and the shortage of alternative employment opportunities, together with the lack of effective conservation and management policies, will increase the attraction of fisheries as a last resort to employment.

Most fishermen at most times catch more types of fish, and sometimes fish of small size, than they aim to. This is by-catch. Some of it is useful and is kept; the rest is discarded, which usually means returned to the sea. The need to minimize discards in industrial fisheries has become a major issue. FAO estimated it to be about 27 million tonnes per year. By-catch and its subsequent discarding is usually a consequence of the very nature of fishing. It may not be completely eliminated, but may be reduced.

Coastal fish habitats are rapidly being degraded in many parts of the world by industrial, urban and agriculture pollution, landfill, the damming and diversion of rivers, the clearance of

mangrove, sedimentation, mining and oil exploration and extraction, marine-based pollution, etc. ; while the fisheries sector suffers harm globally, it is also, itself, responsible for environmental damage.

A number of major problems confronting policymakers and fisheries managers have emerged in recent years as the complexity of management has become increasingly understood.

These problems include the lack, or inadequacy, of information relating to key biological parameters and the extent to which natural fluctuations and human impacts are responsible for observed changes in a resource base.

The 50 Member States of the OIC in 1995 produced, as a group, a total of 11 million tonnes of fish from all sources (marine, inland waters and aquaculture). Information on fish trade within each country, inter-regionally and intra-regionally, is still not comprehensive.

Trade balance

While the above figures indicate a favourable trade balance of 411,000 tonnes in quantity and about US\$ 3.3 billion in value, this favourable balance is due to the fact that the major fish and fishery products exported are mainly of high valued species of crustaceans and molluscs, which normally have high

international market prices, while the major imports are of fish, fresh, chilled or frozen, which are possibly of much lower value on the world markets.

In view of the fact that the trade figures do not indicate if the trade is within and among the member States of the OIC, it is, however, believed that the major trading partners are mostly from the developed countries, such as the US, Japan and the EU.

Notwithstanding the overall favourable trade balance, which seems to be due to the exports of high valued species from a very small number of the Member States, it is very important to point out that trade in fish and fishery products in the majority of the Member States faces a number of constraints of a varied nature, including:

- shortage of reliable information on products and prices
- lack of information on potential trade partners
- shortage of information on supply-and-demand situations
- tariff barriers
- insufficient knowledge of the various resources available
- limited capabilities on resource management and conservation
- inadequate infrastructure including fishing harbours, cold storage, ice plants, processing facilities, etc.

In order to improve the situation of fisheries in the majority of the Member States of the OIC and in order to achieve the socioeconomic, environmental and nutritional importance of fisheries, and the growing demand for fish products, certain actions are required to be carried out by the States concerned.

Among these actions are:

- reduce overfishing by taking drastic measures;

- rebuild and enhance fish stocks through better management and resources conservation;
- minimize wasteful fisheries practices, discards and post-harvest losses;
- develop sustainable aquaculture; and
- develop fisheries for new and alternative species based on principles of scientific sustainability and responsible management.

This piece is excerpted from a paper titled *Conservation of Fisheries Resources: Implications on Trade* by Izzat H. Feidi (ifeidi@thewayout.net), former Chief, Fish Utilization and Marketing Service, FIU, presented at a seminar on Trade in Fisheries of the OIC Member States, at Agadir, Morocco

EU fishery agreements

Can the leopard change its spots?

Reform of the European Union's fishing policy lacks credibility, going by the instance of Mauritania

"...there is a need to improve both credibility and image vis-à-vis international public opinion (and) to contribute to...responsible and sustainable fisheries"

—The Green Paper on the Future of the Common Fisheries Policy, European Commission.

When it comes to credibility and sustainable and responsible fisheries, the European fishing sector's reputation leaves something to be desired. Although not unique in many respects, the fact is that European fisheries are characterized by overinvestment, overcapacity, resource depletion and declining employment.

In distant waters, the European Union (EU) fishing fleets are infamous for the unfair 'cash for access' fisheries agreements, and for fishing on several clearly overexploited stocks (Argentinian hake stocks and Mauritanian octopus stocks being two particularly noteworthy examples).

The attempts made by the European Commission to address these issues in its Green Paper on the future of the Common Fisheries Policy (CFP), published earlier this year come, therefore, as a welcome surprise.

Of particular interest are the statements of intent to reform the international policy. Here the Green Paper acknowledges: "Many third countries where European fleets used to fish are also facing the problem of resource depletion while fish supply is crucial for their food security and economic development." It goes on to assert that "...in third countries where there is a need to reduce fleet capacity, it is inconceivable to ask for an increase of fishing possibilities for European vessels".

In this regard, one of the key issues of concern in EU fisheries relations with developing countries is the issue of 'surplus stocks'. The presence of such 'surplus stocks', according to Article 62 of the United Nations Convention on the Law of the Sea (UNCLOS) is a prerequisite for distant-water fishing access.

In this regard, the Green Paper notes: "Ensuring access for the Community fleet to surplus stocks in the exclusive economic zones of third countries remains the objective of the Community external fisheries policy. (and furthermore that) this objective should be achieved in a manner coherent with other objectives...and compatible with the fundamental mission of the CFP, that is, ensuring the sustainability of fisheries resources."

However, it is well known that fish stocks fluctuate over time, and there are differences of opinion as to what constitutes a surplus. Thus the 'surplus issue' is often highly politicised, and is often fudged by vested interests. It would be much more appropriate to adopt an ecosystems approach and apply the precautionary principle, than to haggle, with spurious arguments, over what constitutes a surplus.

It was the prospect of the extension of the EU-Mauritania fisheries agreement that spurred the visit of two Mauritians to Brussels earlier this year.

Important visitors

For two weeks in June 2001, Ahmed Mahmoud Cherif—Director of Fisheries in Mauritania from 1976 to 1980, General Secretary of the Ministry of Fisheries and Marine Affairs from 1986 to 1988, and now Chairman of the Mauritanian NGO PECHECOPS (Ecological Fishing for Social

Progress)—and Sid’Ahmed Ould Abeid—President of the Artisanal Section of the Mauritanian National Fisheries Federation (FNP)—were in Europe to raise awareness about Mauritania’s fishery problems.

Hosted by the Coalition for Fair Fisheries Arrangements (CFFA), the two visitors participated in various formal meetings and hearings with the European Parliament and Commission Directorates, had an exchange visit with Italian octopus fishermen, visited the fish auction in Zeebrugge, and met with officials from the Dutch Fisheries and Development Co-operation Ministries. They also met with Belgium government officials on the eve of the Belgium Presidency of the EU.

Cherif was also in Brussels at the invitation of the European Commission to participate in a Round Table meeting on Fisheries and Development. In many ways, this was a groundbreaking event: for the first time in its history, the European Commission was formally debating the links between its fisheries policy and its development co-operation policy with countries in the South, a debate to which participants from the South had been invited. Previously, in November 2000, the European Commission had issued a Communication entitled *Poverty Reduction and Fisheries*.

This communication, prepared jointly by the Fisheries and Development Directorates, makes the case for adopting a common framework for the fisheries and development policies, with the priority objectives of sustainable development of the local sector and support to small-scale communities.

It had been hoped that this initiative, together with the overall reform of the CFP, would lead to the EU adopting a more responsible and sustainable model of fisheries, both within and outside Community waters. As noted by Steffen Smidt, the Director General for EU Fisheries, it is only by adopting such an approach that the EU will gain any credibility. However, such credibility (and responsibility) was noticeably absent in the previous agreement with Mauritania, particularly with regard to access to octopus stocks. The increased levels of access obtained by the EU in the new agreement seems a cynical contrast to the EU Fisheries Director General’s and the Green Paper’s rhetoric about promoting sustainable and responsible fisheries.

Main engine

In Mauritania, the fisheries sector has become the main engine driving national development. It provides more than half of the foreign exchange earnings, 10 per cent of the gross domestic product (GDP), between 25-30 per cent of the government revenue, and provides some 30,000 jobs.

Cephalopods (squids, cuttlefish and octopus) provide nearly 70 per cent of the foreign exchange earnings from the fisheries sector. In terms of volume and value, the most important species is the common octopus (*Octopus vulgaris*), which accounts for half the turnover of the sector. The rest is shared equally between several demersal and pelagic species.

For those who believed that the EU was serious about reforming its fisheries policy, the new protocol recently signed to extend the fisheries agreement between the EU and Mauritania has been a major deception, especially when the EU's Fisheries Commissioner Franz Fischler hailed it as "beneficial both to Mauritania and the EU". Conversely, Sid'Ahmed Ould Abeid described the agreement as "potentially disastrous for the fishery".

A particularly cynical aspect of the new agreement is the clause that gives access to pelagic stocks for "vessels over 9500 GRT that were fishing in Mauritanian waters during 2001". This provision would seem to be made exclusively to benefit the *Atlantic Dawn* (see *SAMUDRA Report* No 29), whose fishing activities have caused an international outcry. This vessel is now subject to legal proceedings brought by the European Commission against the Irish authorities for their failure to fulfil their obligations with regard to the information requirements of the Commission.

Also, in the new agreement, the EU has dramatically increased the levels of financial compensation to be paid to Mauritania, a country that, according to the World Bank, is one of the world's poorest and most indebted. An increase of more than Euro 160 million (from Euro 266.8 million to Euro 430 million) over the five years to 31 July 2006, makes this the EU's most important agreement with any country. Whilst this compensation may have been earmarked for many positive developments, such large sums of money exert huge financial pressures on developing country governments to toe the EU line.

However, this dramatic increase in financial compensation is not all that it

seems. Given the weakening position of the Euro against the US dollar, the Euro 430 million provided in the new agreement are worth US\$374.5 million (with the exchange rate at Euro 1 = US\$0.87). In 1996, the 267 million ECU financial compensation package provided to Mauritania was worth US\$ 331 million (with 1 ECU = US\$1.24). Experts estimate that with well-managed stocks, the octopus fishery in Mauritania alone could generate as much as US\$ 100 million annually.

When asked by a Dutch official why he was in Europe, when the organization he represented—the FNP—was part of the Mauritanian negotiating team, Sid'Ahmed replied: "You must understand that we are here as observers and not as participants (in the negotiations). The Mauritanian government is under pressure (to sign a fisheries agreement). We need to clarify confusions (in the EU), and our purpose here is to raise awareness about the reality in Mauritania."

From a preliminary study of the new agreement, it would seem that the EU pressure has prevailed over reason. In a recent debate in the Spanish Parliament, the Fisheries Minister announced that he was pleased that the agreement had been signed, as this allowed the redeployment of Spanish trawlers from Moroccan waters. This confirms the fact that the agreement is more about re-deploying surplus capacity than about access to surplus stocks.

Many people claim that the financial compensation provided for fisheries agreements is expensive because it contributes to the development of the third countries. This is refuted by Ahmed Mahmoud Cherif. He notes that as far as the Mauritanian government is concerned, "the payments made by the EU are a financial compensation for loss of fishing rights, that is, it is the cost of the rent paid for European vessel access, and for resource exploitation. It has nothing to do with development aid. For this reason, any interference in its use is not taken well. Compensation is treated as a receipt to the national budget, and it is therefore not up to the EU to decide in advance how it is to be used. If these funds were really

Belgium Presidency of the EU

Between July and December 2001, the Belgium Government presides over the European Council. One of the key issues to be addressed concerns the role of fisheries in poverty reduction, and the importance of achieving coherence between this fundamental objective of the EU's Co-operation policy and EU fisheries practices. A notable achievement of the Belgium Presidency has been the signing of a Development Council of Ministers Resolution (November 2001) on "Fisheries and Poverty Reduction". This, *inter alia*, notes that: "...fisheries agreements have potential economic benefits for developing countries and can contribute to development objectives... when they involve the following elements, among others:

- respect (for) Article 62 of the United Nations Convention on the Law of the Sea;

- flexible adjustment of fishing possibilities...taking into account the best available scientific information and in accordance with the needs of the local fish industry;
- application of the precautionary principle as laid down in the Code of Conduct for Responsible Fisheries;
- implementation of protective measures for small-scale fishing and for subsistence fishing (in particular, by strict observance of a protection zone);
- observance of the principles of good governance, with financial compensation having to be paid and used in accordance with sound budgetary management practice, and national poverty reduction plans.

allocated in the framework of development co-operation between partners, that would be seen differently."

As regards the previous fishing agreement, Cherif highlighted that "declines in (the cephalopod) resources are a catastrophe for Mauritania's fishery, and the current levels of EU access can't be sustained...also...if (in the new agreement) all the 22 (pelagic) vessels were to be deployed (as specified in the previous EU agreement), it would be a disaster—that is clear. The pelagic resources are very fragile and very sensitive to environmental changes."

Ould Abeid, who has more than 30 years experience in the fishery, started fishing "when many Mauritians would not eat off the same plate that fish had been on"—such was the traditional aversion to fish eating! He said that he is not against fisheries agreements, but feels that they must be responsible and sustainable, and not prejudice or discriminate against the local artisanal fisheries.

The organization he represents—the FNP—has stated that "the massive introduction of bottom fishing vessels from the EU in 1996 plunged the national fishing sector into an unprecedented crisis.

Out of a national fleet of 245 units, only 125 are actually operational, 65 are laid up indefinitely and the rest have been completely written off. The artisanal sector has a fleet of 3,300 vessels, but only 1,800 are active. The rest are tied up. A further highly significant indicator is that the export of fish through the Mauritanian National Fish Trading Society (SMCP), which exceeded US\$ 172.5 million in 1995, has plunged by 50 per cent to US\$ 90 million in 2000."

That the fishery for octopus in Mauritania is anything less than a phenomenon is beyond question. From any perspective, but particularly from biological and socioeconomic perspectives, the story of the fishery is, quite literally, phenomenal.

Japanese fishing companies are said to have been the first to develop this West African fishery in the 1960s, when other commercial demersal fisheries were already in decline.

Substitution

According to Cherif, the substitution by octopus of the other demersal stocks was more than a technical and economic substitution. A biological substitution is also thought to have taken place, caused by a phenomenon similar to the process being witnessed today on the Senegalese fishing grounds further south. Here,

Mauritania's Octopus Fishery: Table showing fleet and catch development over the period 1990 - 1997

| Year | No. of Trawlers | No. of Artisanal Vessels | Total Catch (tonnes) | Artisanal Catch (tonnes) |
|------|-----------------|--------------------------|----------------------|--------------------------|
| 1990 | | | 21454 | 2339 |
| 1991 | 113 | 343 | 30550 | 4620 |
| 1992 | 116 | 327 | 43456 | 8171 |
| 1993 | 120 | 385 | 36635 | 7550 |
| 1994 | 134 | 558 | 25126 | 5791 |
| 1995 | 172 | 668 | 18642 | 2291 |
| 1996 | 224 | 896 | 15582 | 2470 |
| 1997 | 239 | 986 | 14919 | 1635 |

Source: CNROP 1998

octopus is increasingly occupying the niches left by the overexploited demersal finfish stocks, and is being targeted by the artisanal fisheries in a highly opportunistic fishery.

Since the early 1990s, fishing for octopus has become a social and economic phenomenon in Mauritania. Ould Abeid explains that it was the Japanese who first encouraged the development of the artisanal fishery in Mauritania in the 1980s.

The Japanese cephalopod vessels left Mauritania in 1982, choosing not to renew their fishery agreement. Rather, they opted to support the development of a local artisanal catching sector and to encourage octopus exports to Japan. They provided small boats and outboard engines, and trained Mauritians in the use of unbaited pots. Initially, this was based on a system that used the old cans from tinned tomatoes. Today, a system of unbaited plastic pots is used.

Between 1985 and 1992, catches in the Mauritanian artisanal octopus fishery boomed from 60 to 8,000 tonnes. But, since the early 1990s, danger signals have been warning that this species has become overexploited. After spectacular

increases in catch rates, where artisanal extraction rates tripled from around 2,000 tonnes in 1990 to more than 8,000 tonnes in 1992, there came a resounding crash (see table). In 1997, catches in the artisanal sector were less than 25 per cent of those in 1992, a period when the artisanal fleet had tripled in size.

Today, the fishery for octopus is a serious danger of economic extinction. Rarely has there been such a consensus among researchers, the administration and fishworkers that the stocks of Mauritanian common octopus are dangerously overexploited.

In 1998, the 4th Working Group of the National Centre for Oceanographic and Fisheries Research (CNROP), comprising researchers and experts from national, regional and international research institutions, noted that there was "a net reduction in the biomass, which has fallen from 573,000 tonnes to 90,000 tonnes, significantly less than the threshold level of 200,000 tonnes required for maximum catch levels."

It was also noted that "any further increases in fishing effort could have grave consequences both for the stocks and for the fishery; that any reduction in

the age of first capture will inevitably lead to a decline in exploitation levels and have damaging consequences.”

Under the previous fisheries agreement, Spanish trawlers are permitted a 15 per cent by-catch of juveniles. But despite the warnings from CNROP, Spanish vessel owners are asking for this to be increased. José Ramon Fontan, a spokesman for the Spanish trawler organization, ANACEF, has noted that “up to 83 per cent of the catch is composed of juveniles”—a very worrying admission, given the grave state of stocks.

Previously, when the EU renewed its fisheries agreement with Mauritania in 1995 (the first agreement was signed in 1988), the writing was already clearly on the wall for the common octopus. As early as 1992, it was estimated that stocks were being exploited at 30 per cent above the optimal level.


Nevertheless, the EU negotiated increasing levels of access to Mauritania’s octopus stocks, from 25 vessels in 1996 to 50 vessels in 2001. With access being increased for up to 55 vessels under the new agreement, serious questions arise about the EU’s claims to be promoters of responsible and sustainable fisheries.

It can only be hoped that the attempts of the EU Fisheries Commissioner and the Fisheries Directorate to reform the CFP are sincere. But the Mauritanian experience does not bode well. In a recent debate in the European Parliament on Sustainable Fisheries, the EU Director General for Fisheries told the representatives from the Africa, Caribbean, Pacific (ACP) States that, in his view, fisheries agreements were a way of providing a helping hand from one partner to another; that coherence was a practical issue as far as fisheries and development were concerned; and that there should be a two-way traffic between the partners.

The problem with this two-way traffic is that in one direction there is an EU juggernaut bearing down, laden with all kinds of heavy baggage—tax breaks, subsidized access arrangements, vessel transfer grants, low interest loans, etc.—that creates a very uneven surface. In the other direction is rather a fragile

vehicle comprised of highly valuable but extremely vulnerable fishery resources on which local small-scale fishing communities are critically dependent.

Rather than such a two-way traffic, and as proposed in the Development Council Resolution on Fisheries and Poverty Reduction, fisheries access arrangements need, in the longer term, to be based on a “political dialogue between the EU and the developing countries (towards establishing) a joint framework built on the overarching development objective of poverty reduction and taking into account the mutual interests of both sides.”

It is only through such a framework that sustainable and responsible fisheries can be established, and that the EU will become credible. 

This piece has been compiled by Brian O’Riordan (briano@skypro.be) of ICSF from various CFFA materials

Distant-water fishing

A shoulder to lean on

There is a case for governmental intervention to prop up the floundering distant-water fishing industry of Russia

Russia has been going through an 'emerging market' period for the last ten years, which has dramatically changed the principles and rules by which all branches of Russian industry have functioned. No exception to this process is the fishing industry and the harvesting of marine resources.

In the erstwhile Union of Soviet Socialist Republics (USSR), fishing beyond the borders of the country's exclusive economic zone (EEZ) had always played a very significant part in the national fishing industry. The Soviet Union harvested only about half its national annual catch within its EEZ. Marine resources within the 200-mile EEZ were quite abundant in stock, but the Soviets did their best to maintain a balance between the capacities of the huge national fleet and the fish resources.

Intergovernmental agreements signed with 46 countries of the world allowed Soviet fleets to go fishing around the globe, from the northern Atlantic to the Antarctic seas. The country used to build floating fish-processing facilities capable of working independently in the high seas. This ocean fleet had scientific and research departments that addressed issues of the industry, both tactical (providing fleets at sea with information about the best fishing areas available) and strategic (searching for and studying new fishing areas). In the 1980s and 1990s, such research departments discovered over a dozen fishing grounds with a total capacity of over 5 million tonnes of fish (see *Weighty Opinions*, Murmansk Fish Resources, 2000).

Naturally enough, the distant-water fishery required huge investments. Even with extremely low fuel spending, governmental subsidies to the industry

would have reached over 3 billion roubles (US\$5 billion).

The emerging market put an end to governmental subsidies to national fisheries and facilitated the transfer of fishing fleets to mostly private fishing companies. All this, together with skyrocketing fleet maintenance costs, pushed the distant-water fishery close to making losses. In order to avoid spending resources on giant vessels designed especially for distant-water fishing, fishing companies got rid of such 'unprofitable' ships. As a result, in the northern fishing regions, about 62 per cent of the total number of large fishing vessels were either sold or removed from operation.

The remaining fleet that retained a huge fishing capacity had to move inside the Russian EEZ and harvest only national fish resources. It did not take long for the consequences of this development to emerge. In the very first years of Russia's market reforms, a decline of the main fish stocks in Russian waters occurred.

Today the total national catch of marine (fish and non-fish) resources is only about 4 million tonnes. The Russian fishing fleets harvest 3.5 million tonnes, or over 82 per cent of the total catch, in Russia's EEZ. This can signify only one thing: Russian distant-water fishing is in a deep crisis that has affected all areas where Russian fishing fleets have ever worked.

No comparison

Russia still catches some fish beyond its EEZ, but in scale and number of fishing vessels, the operations are no comparison to the Soviet fleets that used to ply in these waters 10 years ago. For the last decade, Russia has halved its catch in other countries' EEZs and in the high seas to a

tenth (see *On Enhancing Efficiency of the Fishing Industry in Russia*: from a session of the Government of the Russian Federation, prepared by the Russian Federation State Fisheries Committee, 1999). In 2000, Russia harvested only 38 per cent of its catch in other countries' EEZs and only 10 per cent in the high seas.

The largest number of Russian fishing vessels remains in the northern Atlantic, where Russian harvest of marine resources reached 900,000 tonnes in 2000. Ninety per cent of this catch was harvested in the northeastern Atlantic, which is the most accessible and, consequently, the most convenient area for Russian fishing fleets.

Although the Russian catch in the northwestern Atlantic grew twofold in 2000, compared to the 1999 catch, in absolute terms, it reached only 13,000 tonnes, which is unremarkable compared to the potential of this area.

Russia has completely lost its former positions in the central-eastern and southeastern Atlantic. It continues to withdraw its fleets from this very productive region.

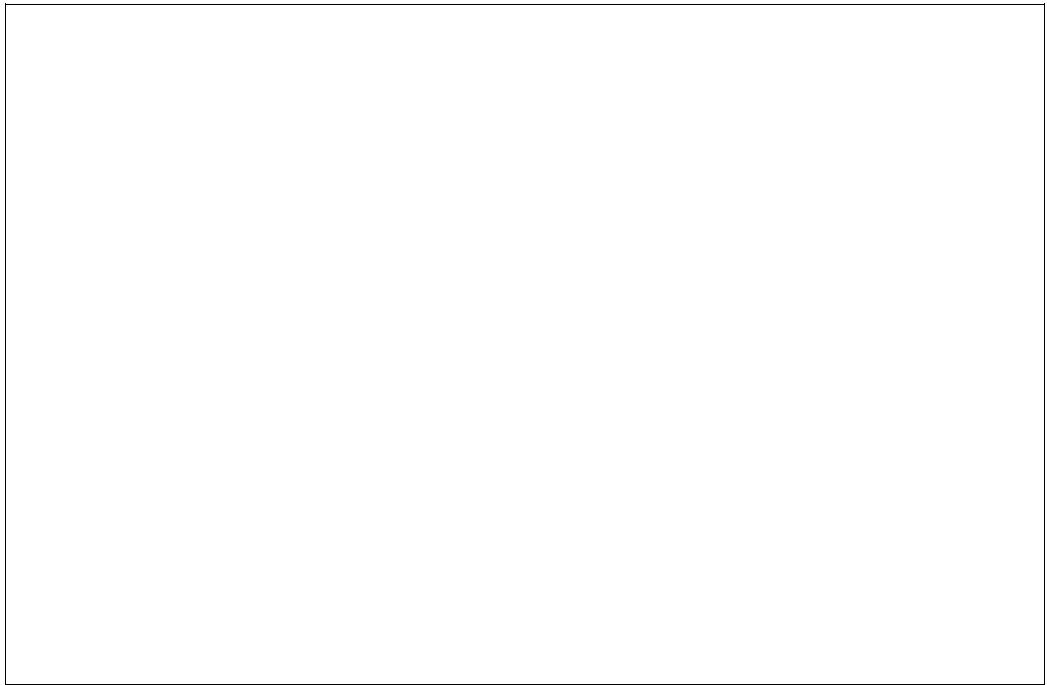
In fact, today there is not a single Russian fishing vessel in an area where, some 10 years ago, Russia used to catch 1 million of the 3 million tonnes of fish and invertebrates caught.

In 2000, in the Morocco zone in the Western Sahara region, the Russian catch accounted for 53.8 per cent of the estimated catch volume, while, in 1999, it was 59.8 per cent of the total catch. In the Mauritania zone, these figures were 40.6 per cent and 89.3 per cent, respectively, and in the Namibian zone, 50.2 per cent and 75.2 per cent, respectively.

In the South Africa zone, only one Russian vessel has operated in the last three years. In 2000, Russian fleets did not venture at all into the EEZs of Senegal, Guinea-Bissau, the Republic of Guinea and Sierra Leone, though, according to some estimates, Russia could have harvested up to 500,000 tonnes of marine products there. The southwestern Atlantic has been abandoned by Russian fishing fleets, too (see *Fishery Survey*, A. Mukhin and L. Solodovnikova, 2001).

The reasons for this are:

- a heavy dependence on acquiring fishing licences;
- non-availability of fuel;
- the need for floating fish-processing facilities;
- fish supply contracts; and
- market demands and preferences.



The absence of governmental support for the fishing industry only fuels the negative trends of the last 10 years—the constantly decreasing scale of the distant-water fishery.

The situation in the Pacific is somewhat different. The same skyrocketing costs of harvesting bioresources drove Russian fishermen out of the southeastern and southwestern Pacific, where they had worked for a long time and where the estimated catch was 2 million tonnes. They were also driven out of the Antarctic waters of the Pacific Ocean (estimated catch: 3 million tonnes). It soon became a lot more profitable to catch fish in Russia's EEZ. Besides, the huge and extremely productive Russian zone in the Far East withstood for some time the huge capacity of the fleet operating there, though, according to some expert estimates, the fleet's capacities were not used to the full at that time, exceeding the quotas for walleye pollock twofold and for crabs threefold.

Since the main fishing areas in the Bering Sea and the Sea of Okhotsk were exhausted, the total allowable catch for these regions decreased as well. For example, according to the scientific community, the walleye pollock catch has decreased from 3.5 million tonnes in the early 1990s to 1.7 million tonnes in 2001. Fishery scientists say that the situation in

this region will further deteriorate. In a situation when the fish stock is decreasing, fishermen are getting more and more anxious about using large-capacity fishing vessels in Russia's EEZ.

Today, fishermen openly acknowledge the grave mistakes in the management of fish resources. However, they tend to blame the Russian Federation State Fisheries Committee for recent losses. They claim that even after knowing about decreasing fish stocks in Russia's 200-mile EEZ, the government officials did nothing to either economically or administratively encourage fishing companies to withdraw their large-capacity fleets from the high seas.

Only now have Russian high-ranking officials started realizing the necessity to protect and maintain the distant-water fishing industry, but Russian vessels will never be able to return to the abandoned areas on the same terms. Most of the international agreements on harvesting marine resources in other countries' EEZs that the Soviet Union has signed in the past have expired, and the waters that used to be the exclusive operation areas of Soviet fleets have been taken over by fleets from Spain, Portugal, China and South Korea.

Intergovernmental pacts

Despite this fact, Russia's share in the international fishing operations is still

based on 57 intergovernmental agreements. Half of them have been signed with countries that have maritime borders and fish stocks common with Russia.

The rest are with countries in Africa, North and South America, Asia and Oceania. The State Fisheries Committee of the Russian Federation has its offices in 11 partner countries. In recent statements, Russian fisheries officials frequently mention the need to revive distant-water fishing, hoping that it may help significantly increase Russia's total catch volumes and restore national fish stocks. The Fisheries Committee pledges to encourage fishing companies to work in foreign waters, promising them, in particular, additional quotas for harvesting of valuable fish species and marine products in the Russian EEZ in return (news releases of the State Committee for Fisheries of the Russian Federation).

Both Russian fishermen and fishing industry executives understand that without governmental support, they will never be able to revive distant-water fishing. Ships get out-of-date and worn-out, and buying new ones requires significant funding. Russian fishermen have often appealed to the government and the Fisheries Committee suggesting the following measures to encourage distant-water fishing:

- low-cost State contracts to supply widely consumed fish species;
- subsidized fuel for fishing vessels operating beyond Russia's 200-mile EEZ;
- establishment of medium and large State-owned fishing companies specializing in harvesting fish resources beyond the Russian EEZ;
- developing a reasonable taxation policy that encourages fishery and research activities in the high seas; and
- deferring loans.

Today, all over the world, the fishing industry enjoys significant governmental subsidies. Only Russian fishing companies have to survive on their own. Since 1994, the fishing industry in Russia has got no budget allotments, investments, deferred loans or subsidies and compensation payments.

"You can't but feel envy when you see how Portuguese or Chinese authorities treat their fishermen working together with us somewhere in Mauritania, giving them all kinds of privileges. Looks like only we, Russian fishermen, with our capacity for work and our ability to feel OK with the bare minimum can survive without leaning on the government's shoulder," said Yuri Prutkov, President of the Murmansk trawl fleet consortium (interview in *Expert North-East*, No. 22(29), 25 December 2000).

Despite all the recent negative changes in the fishing industry, Russia still remains one of the leading fishing countries of the world. In certain Russian regions, fishery still remains a vital part of local economies, giving jobs to a larger part of the local population, despite the fact that for the last 10 years, the number of fishing industry workers has decreased by 30 per cent (see *The Share of Fishing Industry in Ensuring Russia's Independence in Foodstuffs and in the Income Part of the Federal Budget*, an analytical note of the Accounting Chamber of the Russian Federation, 1998).

Today, a lot of hope is put into optimization of fishing activities that is expected to use the entire capacity of fish-processing facilities in the coastal area, saturate the internal market for marine products, create a lot of jobs at fishing fleet maintenance facilities and, in the long run, maintain the countries independence in food. Distant-water fishing is an essential part of this process. ♣

This piece is by Elena Pashkova
(fish@ru.greenpeace.org),
Greenpeace Russia ocean
campaigner

Tawa dam

Naturally ours

The displaced indigenous people of the Tawa dam area in India are fighting to retain their rights over water, forest and land

In Kesla block of Hoshangabad District in Madhya Pradesh, the *adivasis* (indigenous forest and tribal people) have constantly faced displacement and consequent deprivation of their resource base. The last 15-20 years have seen tribal struggles seeking resettlement and resolution of other issues relating to land, water and forest rights. Around five years ago, they got their first taste of success in the form of fishing and marketing rights in the reservoir of dam at Tawa, which is a tributary of the Narmada river. An ordinance testing range had displaced people earlier, and the Tawa dam also contributes to continuing displacements of the same people. Hence, the permission for fishing and marketing rights for the displaced persons of Tawa in 1996 was indeed a welcome step by the government of Madhya Pradesh.

Earlier, in 1994, the oustees of Bargi dam (another dam on the Narmada) in Jabalpur succeeded in the entrepreneurial venture entrusted to them by the government. In 1996, the government had accepted in principle the rights of the *adivasis* to natural resources. Encouraged by this, the government granted fishing and marketing rights to the Tawa Vistapit Adivasi Matsya Utpadan Evam Vipnan Sahkari Sangh (briefly known as Tawa Matsya Sangh) for a period of five years.

The *adivasis* were initially apprehensive about the prospects of fishing in such a large reservoir and of marketing their catch. But, with the strong support of Kisan Adivasi Sangathan, the last five years has been quite a fruitful experience of collective action.

Today, 36 fish co-operative societies are active in various villages. Three affiliated

societies and about 12,000 to 13,000 fisherfolk have joined hands to form a federation that runs the whole show. Uninitiated in the ways of business co-operatives and official correspondence, these people did have a hard time in the beginning. But the success of their forerunner, the Bargi fish co-operative, encouraged the Tawa fisherfolk to persist with their efforts. Today, they are adept at handling all affairs concerned with their business, be it techniques of fish culture, fish catching, identifying fish species, business accounting or negotiating with traders in cities like Calcutta or Nagpur. The revenue collected by the government in the form of royalty through the Sangh has shown a steady increase.

Prior to the Sangh's involvement, the government had laid down a target of 45 tonnes of fish production for three months in 1996-97. But the Sangh more than doubled the target to reach 93.33 tonnes. Production has been increasing and 327.18 tonnes of fish were produced in 2000-2001. Earlier, the Fish Development Corporation (FDC) had produced only 131, 146, 89 and 84 tonnes of fish respectively for the four years 1990-94. During this period, each year the FDC and the contractors had hired 140 fisherfolk, most of whom were outsiders. On the other hand, the Matsya Sangh engages as many as 477 fisherfolk and all are local, tribal, displaced people.

Regular income

One great achievement is that the people have been able to acquire a regular job and reasonable income. Today, each person earns around Rs. 90-100 (around US\$2) daily. Besides, 20 per cent of the catch goes to the fisherfolk who can either consume or sell them at their own prices. They are also entitled to bonus and other

facilities. Apart from a fulltime employment for 10 months a year, the fisherfolk also get dole of Rs1 per kg during the closed season (15 June to 15 August).

This arrangement ensures a token salary during the period of joblessness and also safeguards against clandestine fishing. The Sangh paid nearly Rs2,450,000 during 1997-98 towards dole alone, apart from Rs3,044,000 as a whole year's remuneration. Earlier, the FDC and the contractors jointly used to disburse an average of Rs6,820,000 towards remuneration. The maximum amount paid by them towards wages was Rs1,120,000 during 1994-95, whereas the Sangh made a record payment of Rs1,109,000 in just the first three months, reaching Rs 4,746,000 in 2000-2001.

Similarly, the fisherfolk worked for 267 days in a year, as against 221 for the contractors hired by FDC. Apart from fishing, other assignments like transport, packing, sales, collection of fish seeds, boatbuilding and maintenance of office accounts are also managed by the local people, including plenty of women as well.

It is evident that the fish produced on such a large scale can not be consumed by the local market alone. So the Sangh began marketing in the bigger cities like

Calcutta, Nagpur, Lucknow and Bhopal, where it had mixed experiences. It faced ups and downs on sale prices. Also, at times, the consignments got spoilt before they could be sold and occasionally the Sangh had to pay higher cartage too. Although the Sangh tried to transport the consignments in insulated vans, its main thrust continued to be the local and nearby markets.

The Sangh also tried to help the fisherfolk to buy boats and fishing nets by arranging for loans on easy terms. Many societies benefited from this arrangement. The preference for locally built boats and wholesale purchase of fishing nets from Mumbai proved to be cost-effective.

But the inaction of the government machinery is proving to be a hindrance for the Sangh. Constant vigilance had resulted in the apprehension of many poachers. But due to the laxity of the police and the administration, the criminals got away unpunished. Subsequently, the Sangh announced prizes for nabbing fish poachers. This brought down the incidents of poaching and nowadays theft is greatly under control.

Seedlings collected

Despite a lack of experience, the Sangh took upon itself the task of collecting fish seedlings, as the government and FDC had abdicated their responsibility in this

regard. During 1997-98, nearly 2,613,000 seedlings were collected and released in the Tawa reservoir and this increased to 3,219,000 in 2000-2001.

This was, however, lower than the target of 3,600,000. The seedlings had to be collected from various places. The Sangh was also handicapped by a paucity of funds and absence of hatchery and nursery facilities. Hence, it had decided to earmark about Rs. 50,000 to Rs. 100,000 from fish sale every month towards the purchase of costly seedlings. It also promoted fish culture and encouraged local people to breed fish seedlings in small natural ponds. This ensures a substantial reduction in both expenditure on transportation and the death rate of fish

The Sangh made a net profit of Rs29,400,000 in 2000-2001. In contrast, under the contractors and the FDC, there were recurrent losses year after year. Between 1991 and 1994, the losses were to the tune of Rs25,500,000, Rs47,100,000 and Rs34,200,000 a year, respectively. Thus, the Tawa experiment had not only benefited the displaced people but also made a substantial contribution of Rs1,570,000 to the public exchequer in 2000-2001 by way of royalty at the rate of Rs6 per kg. of fish. Within a period of five years, Rs6,737,000 of royalty had been paid (see Table 1).

Table 1: Royalty Paid by Tawa Matsya Sangh

| Year | Royalty (Rupees million) |
|-----------|--------------------------|
| 1996-97 | 0.45 |
| 1997-98 | 1.18 |
| 1998-99 | 1.65 |
| 1999-2000 | 1.89 |
| 2000-01 | 1.57 |
| Total | 6.74 |

Source: Annual Report, 2000-2001, Tawa Matsya Sangh

But ironically, despite having contributed so much in royalty, the government has not seen it fit to provide the area with facilities like roads, water, lighting, education, etc. The Sangh also questions

the wisdom of having to pay royalty, especially as the contributors are displaced people for whom the government had denied even survival necessities in the name of development (read the dam). Even otherwise, the attitude of the administration has not been one of goodwill or support. On the issue of the need to construct an ice factory, the government withheld the funds that were sanctioned by the central government for the purpose. Further, the Sangh is not being allowed to use the government reservoir at Powarkheda (a nearby village), which is currently lying idle, for the breeding of fish seedlings.

23 December, 2001 marks the completion of the five year period of Tawa Matsya Sangh's right to fishing and marketing granted by the government. As yet the Madhya Pradesh government has not taken any decision on its renewal. The irony of this hesitation is particularly striking, since the State is in the thick of a campaign on decentralisation, tribal self-rule and people's participation. The Tawa experiment is a very sincere demonstration of all these parameters. Yet, there seems to be a nexus amongst the bureaucracy, Matsya Maha Sangh (which takes the place of the earlier Nigam or Corporation, now a State-level co-operative of the government) and local politicians and contractors to override the collective efforts of the people. Their attempt is to take away marketing rights from the hands of the Tawa Matsya Sangh. Hence, the primary societies may get confined to fishing rights only. The marketing rights are being sought by the Matsya Maha Sangh of the Madhya Pradesh government. An official committee set up to look into the functioning of the Tawa Sangh and to recommend to the government a future course of action has not done its job. It has not consulted the federation officially; on the contrary, it has been giving it the cold shoulder.

Comparative performance

On 19 November, 2001, in response to a question raised on this issue in the Madhya Pradesh State assembly, a comparative picture of the performance of the Tawa Matsya Sangh and the earlier one of the Nigam (through contractors) was presented (see Table 2). The Matsya

Table 2: Comparative Performance of FDC and Tawa Matsya Sangh

| Year | FDC Management | | | | | Tawa Matsya Sangh Management | | | | |
|--|----------------|---------|---------|---------|---------|------------------------------|---------|---------|---------|---------|
| | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 |
| Fish Production (tonnes) | 146.00 | 87.89 | 84.42 | 176.01 | 93.53 | 93.22 | 245.81 | 344.37 | 393.16 | 327.17 |
| Employment (full days) | 20,520 | 67,935 | 32,037 | 30,719 | 10,640 | 17,255 | 44,589 | 50,826 | 56,854 | 59,500 |
| Release of fish seedlings (100,000) | 24.08 | 17.65 | 27.48 | 17.96 | 34.21 | 31.59 | 26.13 | 27.90 | 29.47 | 32.19 |
| Total income to fisherfolk (Rs100,000) | 7.53 | 4.55 | 4.92 | 13.69 | 7.97 | 10.62 | 27.72 | 44.25 | 45.27 | 41.34 |
| Income per day per person (Rs) | 36.69 | 32.11 | 15.02 | 44.59 | 74.91 | 61.55 | 62.17 | 87.00 | 79.63 | 61.00 |

Sangh is way ahead in all indices of performance. This very clearly establishes the efficiency and sustainability of the Tawa experiment.

It is worthwhile here to recall the experiences of the Bargi co-operative (the forerunners of Tawa Matsya Sangh) at a similar juncture of functioning. The Chief Minister had assured the co-operative of renewal of its contract. But the instruction finally issued mentioned only fishing rights for primary societies. The marketing rights remained with the government (Matsya Maha Sangh). This implies that the status of the fisherfolk in Bargi would henceforth be that of wage earners only.

When the Chief Minister was again approached, he expressed surprise over such an outcome and the order was changed. But the Maha Sangh had already started functioning with the earlier order and had signed an agreement with a contractor. The matter was taken to court and a stay order obtained. Ironically, the government has not made any clear stand on the issue.

Tawa Matsya Sangh and Kisan Adivasi Sangathan envisage a distinct possibility of a repetition of the Bargi type treatment in Tawa too. Hence, they are engaged in trying to pressure the government to take

a sensible decision. Efforts are on to push the matter through a campaign by people's organizations (of the region and outside), the media, intellectuals and experts. The Sangh and the Sangathan firmly stand by the view that their hard-earned rights over the natural resources, along with the creative and collective efforts of the past few years, can not be simply taken away. With the slogan of "people's rights over water, forest and land", they have geared up to continue their struggle.

This article is written by Yogesh Diwan and Yemuna Sunny (yemunass@yahoo.com)

A duty towards co-operation

The ICSF/IOI conference, *Forging Unity: Coastal Communities and the Indian Ocean's Future*, led to the following Vision Statement

1. We, the participants from 13 countries of the Indian Ocean region-Mozambique, South Africa, Kenya, Tanzania, Madagascar, India, Pakistan, Sri Lanka, Bangladesh, Thailand, Indonesia, Maldives and Seychelles-along with delegates from France, Belgium, UK and Norway, met at Chennai (Madras), India from 9 to 13 October 2001. Coming from fishworker unions, research institutions and universities, NGOs, and Governments, our purpose was to discuss issues and consider measures to forge unity among coastal communities for the sustainable and equitable utilization of fisheries resources in the Indian Ocean region.

2. The Indian Ocean region has great marine biological diversity and the largest number of commercial fish species in the world. Fish is an important source of food as well as employment, income and foreign exchange in the region. This region also has the largest number of fishworkers in the world. The majority are in the small-scale sector, using a diversity of craft-gear combinations. A significant proportion of the population lives in poverty, and from environmental and socioeconomic points of view, coastal fishing communities are among the most vulnerable.

3. Rapid economic growth, without adequate considerations for equity, and fuelled by the pressures of liberalization and globalization, has increased the unregulated expansion of economic activities in coastal areas. These include rapid urban development, an increase in the number of polluting industrial units, the growth of luxury tourism and the expansion of industrial shrimp aquaculture, among others. This has hastened the degradation of coastal habitats and often led to the displacement

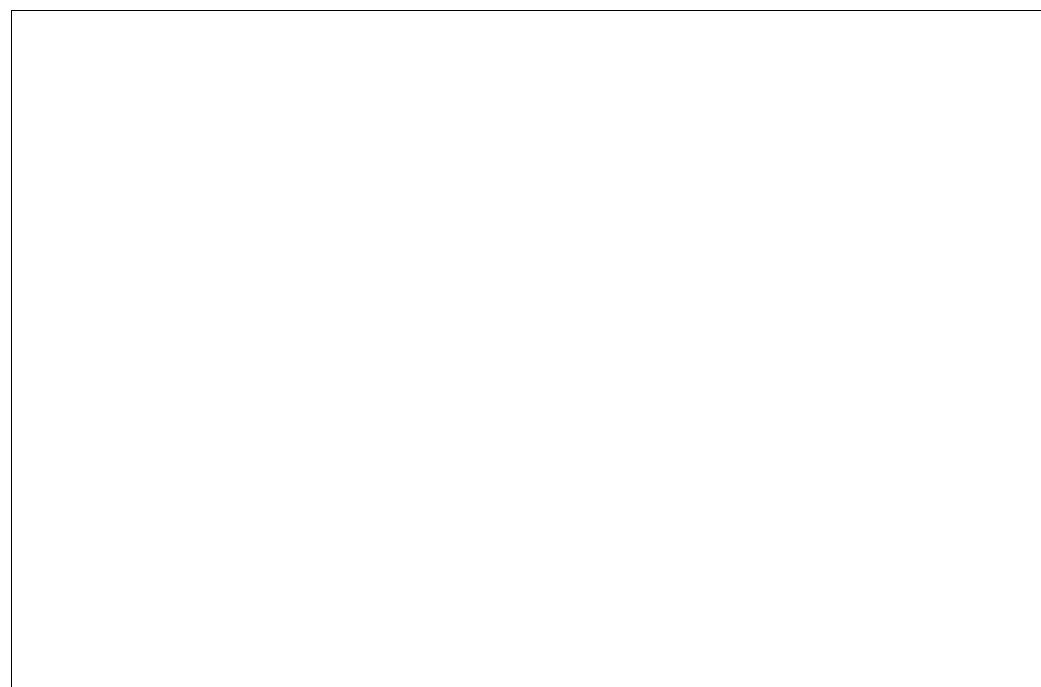
of coastal fishing communities from their traditional living and occupational spaces. To regulate these trends, it is imperative to:

- ensure effective legislation and institutional arrangements that adopt an integrated approach on access to, and use of, resources, bringing in both the landward and seaward components of the coastal zone and its dynamic interface;
- institute participatory mechanisms for decision-making on coastal resource use, according to the principle of subsidiarity, in order to ensure the representation of traditional coastal communities, especially those involved in artisanal/small-scale fisheries;
- guarantee priority rights of coastal fishing communities to the coastal area where they live and the aquatic resources to which they have customarily enjoyed access for livelihood; and
- * assure priority to decent living conditions for coastal fishing communities and safeguard their own development interests.

4. The Indian Ocean region is characterized by fragile and highly productive ecosystems, with complex species and environmental inter-relationships. However, in almost all countries of the Indian Ocean region, fishery resources in the near-shore waters are poorly managed and overexploited. While these resources are the mainstay of the livelihood of fishing families, they are often subject to encroachment by domestic and foreign large-scale fishing

vessels, often using non-selective, destructive gear such as bottom trawls. These unsustainable practices also lead to the damage of small-scale fishing gear and, at times, loss of life through collisions. While untapped resources in offshore areas are known to exist, management arrangements for them are poor or non-existent. The Indian Ocean has important oil and mineral resources, which are being exploited. It is also an ocean with extensive maritime transport, and is a sink for urban, industrial and toxic wastes. To defend the livelihood of the small-scale fishing communities and maintain the productivity and integrity of this ocean and its resources, it is imperative that:

- a socially just ecosystem approach to resource use and fisheries resource management is adopted by States in the region;
 - States should phase out destructive gear, such as bottom trawling, and assess and reduce overcapacity, in accordance with the FAO's International Plan of Action for the Management of Fishing Capacity. For social, economic and ecological reasons, the capacity of the industrial fleet that engages in the same fisheries as the small-scale sector should be minimized as a matter of priority;
 - States should encourage small-scale, selective, sustainable harvesting technologies with strong backward and forward linkages that enhance and maintain employment opportunities within fishing communities; and
 - States should prevent marine pollution from activities such as maritime transport and infrastructure development, extraction of non-living resources, dumping of toxic and other wastes in the region, and introduction of exotic species, in accordance with relevant international conventions and other instruments, including the Global Plan of Action for the Protection of the Marine Environment from Land-based Activities (GPA/LBA).
5. The role of women in the economic activities of coastal fishing communities differs by region and culture, but is universally vital in sustaining livelihoods. The degradation of coastal ecosystems and the displacement of fishing communities from their living spaces have adversely affected the workload and quality of life of women of these communities. Given the almost complete absence of data and recognition of women's work in fishing communities,



little is known about these aspects. It is imperative to:

- recognize and value the work of women, and to develop a database on their work in coastal fishing communities;
- safeguard the existing spaces of women in fisheries;
- ensure women's participation in resource management and other decision-making processes; and
- improve conditions of work of women in fish processing plants in both the organized and unorganized/informal sector.

6. Unauthorized trans-boundary movement of small-scale fishing vessels and the subsequent detention and punishment of fishworkers by States has become a major issue for many coastal communities as well as for administrators who grapple with the problem. This is largely the consequence of the declaration of exclusive economic zones (EEZs), which sometimes prevents coastal fishworkers from accessing their traditional fishing grounds. However, it is also a result of other compulsions, such as the enhanced fishing capacities of the artisanal small-scale fishing fleets as well as the depletion of local, coastal fisheries resources. This complex problem needs context-specific solutions that protect the human rights of fishworkers. It is important that:

- implementation of legislation to deal with the arrest and detention of fishworkers in the waters of other coastal States should be in accordance with Article 73 of the 1982 United Nations Convention on the Law of the Sea (1982 Convention), the UN International Covenant on Civil and Political Rights, 1976 and the UN International Covenant on Economic, Social and Cultural Rights, 1976, among others. Penalties for illegal fishing should be based on the principles of necessity and proportionality;

- States should evolve necessary mechanisms for the release and repatriation of arrested fishermen on a priority basis;
- recognizing that rigid enforcement of maritime boundaries in historic waters in relation to communities that live and fish close to such boundaries can lead to tragic consequences, the interests of such communities need to be accommodated, along with security and other national concerns;
- fishworkers using small-scale vessels apprehended in territorial waters for illegal fishing should not be prosecuted under laws that apply to illegal immigrants. In such cases, the fact that the illegal fishing occurs within territorial waters rather than the EEZ should not lead to punishments that are more severe than those for similar violations in the EEZ; and
- fishworkers should not be made victims of maritime boundary disputes between States. States need to have working arrangements that provide fishworkers access to resources in such fishing grounds for life and livelihood.

7. The development of relatively small boats with long endurance capabilities and using selective fishing methods has demonstrated that large industrial fleets, often from non-riparian States, can be superfluous for the exploitation of all highly migratory resources. In order to encourage this evolving small-scale sector of riparian developing States:

- coastal States with surplus resources should consider providing preferential access to such artisanal/small-scale seaworthy fishing vessels, subject to effective flag State control and responsibility;
- States should, where such opportunities exist, facilitate the

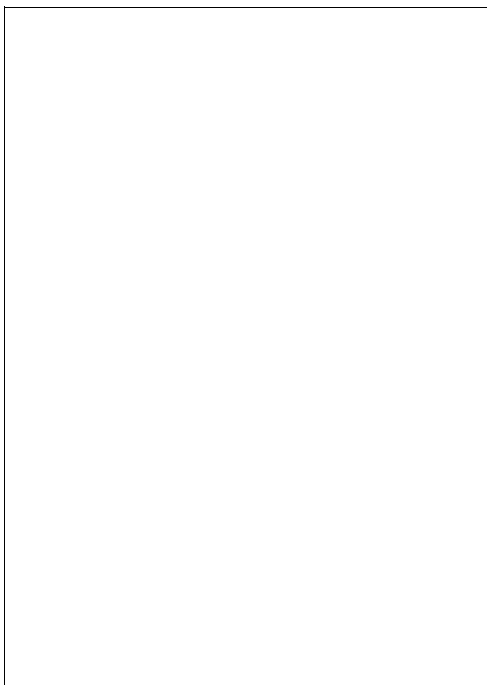
conclusion of an agreement that allows its small-scale long-distance fleet to legally engage in such fisheries in a responsible manner;

- States should not export excess capacity and destructive fishing methods;
- coastal States should, given that at least a part of the reason for trans-boundary movement is the poor management of EEZs in many countries, improve the management of their fisheries resources, exercise effective control over their fleet, and move towards responsible fisheries; and
- States should be enabled to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing, in accordance with the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). This is of special concern to developing States, especially small island developing States, that depend heavily on their fisheries resources for food security, economic well-being and development.

8. The principal beneficiaries of the current fishing pattern for valuable highly migratory fish stocks in the Indian Ocean region are not those coastal States whose territories are principally in this region. The rapid growth of tuna catches by distant-water fishing nations in the very recent past should not be interpreted to have established a habitual right in the sense of the 1982 Convention. Decisions on access to these resources should, instead, be governed by:

- a true tradition of harvesting these resources;
- dependency of a country's economy on these resources; and
- the potential of economic and social development for small island developing States and other developing countries in the region.

9. There is evidence that coastal States in the region have accepted fishing agreements with distant-water fishing nations that have not been to the best long-term interests of their economies or to the advantage of their coastal fishing communities. This has often been caused by unfair pressure being exerted through linking the conditions of the fisheries access agreements to the provision of aid



and trade, in contravention of international instruments. To create fair fishing arrangements:

- States should apply Articles 11. 2. 7 and 11. 2. 8 of the FAO Code of Conduct for Responsible Fisheries, which discourage States from making access to markets a condition for access to resources;
- States should develop national fisheries policies in which the coastal fishing communities' rights and needs are taken into account before entering into any negotiation for granting access to distant-water fishing nations;
- States should ensure full transparency and accountability in their dealings with distant-water fishing companies and joint ventures and agreements in order to combat corruption; and
- conditions of work and service on board distant-water fishing vessels should conform to generally accepted international regulations, procedures and practices, in particular those adopted by the International Labour Organization (ILO).

10. Coastal communities in the Indian Ocean region stand to gain from greater

interaction and sharing of information and experiences, capabilities, skills and development alternatives. Many of the countries in the western Indian Ocean region can also draw lessons from the negative experiences of the Asian countries in pursuing development strategies in the realm of fisheries and industrialization. These have had an adverse impact on coastal fisheries resources and coastal ecosystems at an earlier point in time. An example would be the negative impact that industrial shrimp aquaculture has had on the coastal habitats and livelihoods of coastal communities.

11. Keeping the above in mind, as well as the many positive examples of community-based and sustainable development alternatives, it is imperative to strengthen appropriate South-South co-operation. This is particularly relevant in the realm of human resource capability building, use of appropriate and environmentally selective technologies, exchange of experiences in community development projects and resource conservation and rejuvenation measures.

12. In adopting this Vision Statement in the United Nations Year of Dialogue Among Civilizations and amidst the current challenges to world peace, we are especially conscious of our responsibility and duty to continue to promote co-operation among nations and forge unity of the coastal communities in the Indian Ocean's future. ¶

This Vision Statement was adopted at Chennai, India on 13 October 2001 at the conclusion of the conference, *Forging Unity: Coastal Communities and the Indian Ocean's Future*, jointly organized by ICSF and the International Ocean Institute (IOI), India

Trading gets fishy

The recent WTO Ministerial meeting at Doha, Qatar led to a Declaration that could potentially affect fisheries and fish trade

The Ministerial Declaration that came out of the World Trade Organization (WTO) Ministerial Conference in Doha from 9 to 14 November 2001 has on its expanded negotiating agenda at least three areas that bear on fisheries and fish trade.

First, the most specific reference is to fisheries subsidies. This is for the first time that they are on WTO's negotiating agenda. The Declaration refers to "clarify and improve WTO disciplines on fisheries subsidies". It is unclear what this actually means. Does it aim at redefining the scope of subsidies agreements to reflect some of the concerns of member countries on subsidies and excess capacity in fisheries? Would prohibited subsidies include those contributing to excess capacity? Under actionable subsidies, would "adverse effects to the interests of other Members" include subsidies that are believed to contribute to overfishing pressures? Or will we see a new WTO agreement on fisheries subsidies?

Currently, the Agreement on Subsidies and Countervailing Measures is silent on subsidies that contribute to adverse environmental impacts. So far, no complaints, whatsoever, have been made on fisheries subsidies to the Dispute Settlement Body (DSB) of the WTO.

Could such clarifications and improvements possibly help to develop a framework within which the subsidies regimes specific to the fisheries sector can be understood? For example, how to define various kinds of subsidies in fisheries? What in fisheries would be non-actionable, actionable and prohibited subsidies? What about social, economic and ecological benefits and costs of subsidies in the context of rich and poor countries, small-scale and large-scale, and

coastal and distant-water fisheries, both in the short and long run?

An exercise in addressing subsidies issues in fisheries may help to reduce or eliminate subsidies where they are unnecessary, and to better target them to reduce overcapacity, to rebuild fish stocks and fish habitats, to consider effective fisheries management programmes, to introduce insurance and social security measures and to train fishers in alternative forms of employment.

The second aspect of the Doha Declaration is that, under Market Access for Non-Agricultural Products—the category under which fish trade falls—modalities are to be agreed upon to reduce or eliminate tariffs, particularly on products of export interest to developing countries. Such negotiations can potentially contribute to employment benefits, especially to women, in several developing countries that export processed fish products to the United States and the European Union, for example. This is assuming that tariffs can be brought down, or eliminated altogether on processed fish and fish products, like canned tuna in brine or oil, that are exported from developing countries to the industrialized nations. Exporting processed fish, instead of raw fish that are later canned or value-added, can contribute to better conversion of wet weight to product weight, with positive implications for fisheries resource conservation.

Multilateral agreements

A third area of relevance to fisheries is the negotiations on the relationship between WTO rules and specific trade obligations under multilateral environmental agreements (MEAs). The Convention on International Trade in Endangered

Species of Wild Fauna and Flora (CITES) and the International Commission for the Conservation of Atlantic Tunas (ICCAT), are examples of MEAs that have set out specific trade obligations.

The ICCAT management measures using trade sanctions for bluefin tuna or swordfish sometimes apply to imports from non-member countries.

Further, certain species of sharks and sea horses, for example, which are mainly harvested in developing countries, are likely to find their way into the CITES Appendices I and II in the near future. This is a potential area of conflict between 'development' and 'conservation' interests, and the debate could very well be polarised between industrialized and developing countries.

There are also other less significant areas of relevance to fisheries. These include the reference to the WTO Committee on Trade and Environment to continue its work on the effects of environmental measures on market access as well as labelling requirements for environmental purposes.

The reference to the ongoing negotiations on trade in services, especially on movement of natural persons, could also be of some interest to the fisheries sector since several industrialized countries

have room in their depopulating fisheries to accommodate fishworkers from developing countries.

There seem to be consensus emerging at the international level that free trade in marine fish and fish products can be counterproductive to conservation of fish stocks. In the shrimp-turtle case, for example, the Appellate Body of the WTO has upheld that the United States can take trade-related measures to protect turtle population outside its national jurisdiction. Perhaps we are at the beginning of a process that might lead to an Agreement on Fisheries at the WTO. This thought might sound a bit far-fetched, but it can not be dismissed outright. **3**

This piece is by Sebastian Mathew (icsf@vsnl.com), Executive Secretary of ICSF

The arrogance of experts

This piece on the Marine Stewardship Council and the lobster fishermen of Brazil is in response to an article in *SAMUDRA Report* No. 29

The August 2001 edition of *SAMUDRA Report* carried a 'pre-assessment report' of the Prainha Brazil lobster, prepared by Chet Chaffee who is with a group called Scientific Certification Systems, based in California.

I was so furious with the report that I wrote Sebastian Mathew of ICSF who encouraged me to put my thoughts down for the next issue of *SAMUDRA Report*. What follows is really no more than a 'Letter to the Editor'. I have never been to Brazil nor have I ever met anybody associated with the Marine Stewardship Council (MSC).

Mr. Chaffee begins his report by telling us the MSC is "now a fully independent organization", independent supposedly from Unilever and the World Wide Fund for Nature (WWF), but later in the article we find that the WWF is indeed paying for the report. In any case, even if the MSC is fully independent, who are they?

According to Chaffee the Draft Principles and Criteria for Sustainable Fisheries was produced by "20 eminent persons". He talks of a panel of "scientific, economic, and fishery experts." There is no mention of fishermen representatives or unions. How incredibly arrogant! Mr. Chaffee's own Scientific Certification Systems has a multi-disciplinary team of scientists. We are supposed to be overwhelmed by all this science and expertise! But I still wonder, who is the MSC and who are they to be going to coastal Brazil to certify anything?

Consider Mr Chaffee's assessment of the lobster fishery itself. Nowhere in the article do we find evidence to suggest that the Prainha lobster is just one small component of a much larger discrete stock. Yet, the fact that the general trend in lobster landings is declining in Brazil as

a whole seems to be the fundamental reason for ceasing the assessment. Much is made of the increased effort since 1965, and the commensurate decline in 1979 and beyond.

Yet, there is not one shred of evidence to suggest that the increased effort is a threat to the sustainability of the resource. Apparently, we are supposed to be impressed by the dramatically lowered catch rate, even though the next paragraph asserts an expanding number of boats and gear, something that would reduce the catch rate per trap but tell us nothing of the state of the resource.

In the lobster fishery of the Maritime Provinces of the East Coast of Canada, we have 41 lobster management zones. There is wide consensus that lobster should be managed locally and there is absolutely no data to determine what constitutes a discrete stock; the Fisheries Resource Conservation Council has hypothesized that there may be lobster production areas that are larger than a given management zone, but stresses that lobster should be managed locally, while admittedly taking into account measures for the whole production area.

Our lobster fishery was commercialized in the late 1800s and catches peaked some 15 years later and declined throughout the 20th century to a level where landings were a third of the historical highs.


Declining catches

In the late 1970s, landings began increasing and, in 1990, reached levels comparable to the turn of the century. Now they are declining again, as one might expect. We have lots of science and enforcement but absolutely no reason to believe the declines in some areas will not continue, while in others they are

increasing. There is no one out there who has the secret to reverse the trends and there is virtually no correlation between so-called effort and resource sustainability.

This is because, in my judgement, we use a 'passive' form of fixed gear fishing combined with basic protection of the berried females and the immature lobsters. In this type of management fishery, effort is almost invariably a competitive act towards the other participants and not really a determinant of resource decline or expansion.

My guess would be that if Prainha successfully implements its local management measures, the lobster fishermen will most certainly see benefits in future years, regardless of what the rest of the coast is doing; but other parts may 'bloom' for no detectable reason, while Prainha just plods along.

Notwithstanding the optimistic views of René Sharer in a compendium article, I am outraged by Mr. Chaffee and his cohorts in MSC and WWF, with their pompous scientific jargon about sustainability, when they can't even enlighten us on the relation between Prainha and the rest of Brazil's lobster stock. 

This piece comes from Michael Belliveau (mfuupm@nbnet.nb.ca), Executive Secretary of the Maritime Fishermen's Union, Canada

Sustaining marine biodiversity

Ecosystem-based fisheries management has a special relevance in a multispecies context

Fish, and, more generally, living aquatic resources are an integral part of the ecosystem. (Ecosystem is a natural environment in which living organisms are in continuous dependence and interchange among themselves, and also with the nonliving matter.) However, the management of exploitation of fish and other living aquatic resources has been handled on a group-by-group or species-by-species basis.

One example from India is the recent classification of sharks, rays, gastropods and bivalves under Schedule I of the Wild Life (Protection) Act, thereby protecting only these groups from exploitation. These management options on conservation are under the paradigm that the productivity of fish stocks is a function only of their inherent characteristics such as growth, mortality, fecundity, etc. While this assumption holds good to a certain extent, the reality of the interdependence of fish and the ecosystem components needs to be recognized. Moreover, it is almost impossible to exclude a particular group or species of fishes from exploitation in a multispecies context. This is true for the trawl, gill-net, line and seine fisheries.

Distribution and abundance of fish stocks are related to (i) the dynamics of the marine environment, namely, the weather, and the physical and chemical oceanography; and (ii) the interactions between the predator and prey species.

The dynamics of several environmental and oceanic factors such as monsoon, upwelling, currents and productivity, influence the distribution, aggregation and abundance of fish stocks. If the available fish stocks were to be uniformly dispersed in the seas, they would seldom be encountered in the fishing areas. For

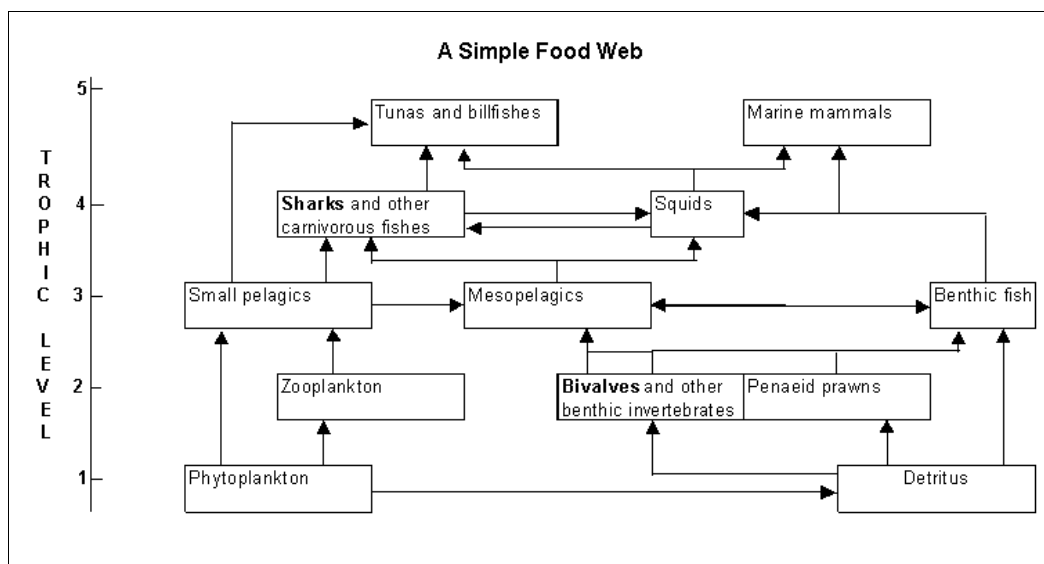
example, if the yellowfin tuna were to be uniformly distributed in the world oceans, it has been estimated that there would be only one yellowfin tuna of 10 kg for every 2.8 sq km of the ocean. Such a density is of no fisheries value because of the high cost of searching and catching that tuna of 10 kg from a 2.8 sq km area. However, the environmental and oceanographic features do not allow uniform distribution of marine organisms and there are wide spatial differences in the abundance of fish stocks, which is related to the carrying capacity of the ecosystem. (Carrying capacity is the number or biomass that can be supported by an ecosystem.)

Moreover, there are large differences in the composition of fish stocks. For instance, the fishery off Kerala, in the southwest coast of India, is dominated by small pelagics such as sardines, whitebaits and Indian mackerel, whereas the one off Gujarat, in the northwest coast, is dominated by demersals such as sciaenids, cuttlefishes and nonpenaeid prawns.

Thus, there is a vast quantitative and qualitative difference in the fish stocks occurring in different ecosystems. It is important that the uniqueness of each ecosystem is given due consideration for formulating fisheries management. Fish are dependant on the ecosystem for their food.

Flow network

Through the prey-predator relationship and the complicated food web, there is a network of flows of matter (biomass) in the ecosystem. In the marine ecosystem, the network links the phytoplankton (plant matter) with the herbivores (phytoplankton feeders), and the latter with the small carnivores and further with their predators. These networks of flows



are affected directly by fishing. Large, long-lived predators (for example, sharks, tunas, seerfishes) as well as small, short-lived prey (for example, sardines, whitebaits, Indian mackerel, penaeid shrimps) contribute in major ways to marine fish catches.

The figure above gives an example of a simplified food web, the position of major fish groups in the web, and the flow between the various levels in the web. Conservation or heavy fishing at a particular trophic level (an indicator of the position of each group/species within the food web) will lead to ecological imbalance and thereby to species replacements.

For instance, for 46,335 tonnes of sharks (which are predatory and hence are at a higher trophic level), exploited by body weight, the exploited shark populations would have consumed approximately 3,475 tonnes per day or 1.3 million tonnes every year. (Juvenile fishes normally consume about 10 per cent of their own body weight every day; the rate of consumption decreases to 5 per cent per day as they grow old.) If the sharks alone are protected from fishing, they would predate on other fishes, prawns, squids and cuttlefishes at the rate of 1.3 million tonnes per year, thereby competing for food not only with the human predators but also among themselves and with other predatory fishes.

Take an example of organisms at the lower level of the food web. The bivalves feed by filtering the phytoplankton from

the sea water and are at lower trophic level in the food web. If the bivalves alone are protected from exploitation, there is likelihood of phytoplankton depletion in the areas of bivalve abundance, which, in turn, will severely affect the other plankton feeders such as sardines and whitebaits, and the bivalves themselves.

Hence, it is imperative to recognize the reality of the inter-dependence of all ecosystem components, instead of assuming that stocks are independent. Though the practical problems raised by the recognition are immense, there are pragmatic ways to begin implementation of ecosystem-based fisheries management actions aimed at conserving the structure and function of marine ecosystems in addition to conserving the fisheries resources.

The fisheries management agencies and the stakeholders involved in the use of aquatic resources need to identify the different ecosystems under their jurisdiction, the boundaries of those ecosystems and their characteristics. Broadly, there may be six types of ecosystems as outlined in the table.

Modelling tool

Modelling is an essential scientific tool in developing ecosystem approaches for fisheries management. A budget on the potential yield and yield at different trophic levels has to be prepared for each ecosystem. Management options such as optimizing craft and gear combinations could be advocated based on these models. For instance, if the pelagic sharks

Table: Considerations for Ecosystem-based Fisheries Management

| Type of Ecosystem | Components | Management Options | Type of Fishing Regulation |
|--------------------------------------|--|---|---|
| I. Critical ecosystem | Coral reefs; sponges; mangroves | Marine protected area; coral rebuilding; mangrove afforestation | Fishing ban altogether |
| II. Vulnerable ecosystem | Declining fish stocks; concentration of vulnerable/ endangered species | No-fishing zone; resource-enhancement programmes like sea-ranching | Fishing ban altogether; alternative livelihood like mariculture |
| III. Polluted ecosystem | Bioaccumulation of pollutants | Ecowatch; evolve standards for waste discharge; implement polluter-pays principle | Fishing and marketing of fish with pollutant load to be prevented |
| IV Estuaries, lagoons and backwaters | Nurseries; closure of bar mouth | Seasonal closure of fishing | Ban all forms of fishing during seasons of spawner and juvenile abundance, and closure of bar mouth; regulate mesh size |
| V Open coastal waters | Combination of Under- and overexploited stocks | Seasonal closure of mechanized fishing; area demarcation for mechanized and traditional craft; limited entry; part of the area as no-fishing zone either on rotation or permanently | Regular but controlled fishing; precautionary approach; alternative livelihood like mariculture |
| VI Far-sea/deep-sea | Mostly under- and unexploited stocks | Atlas on areas of resource abundance; devise economically viable craft and gear; regional co-operation | No restriction for the present; local fishing communities deserve encouragement |

are overexploited in a particular ecosystem, the target gear such as lines could be restricted or banned in that ecosystem.

In consultation with all legitimate stakeholders and interest groups, objectives must be agreed upon for each ecosystem. For instance, the short-term objective for a coral reef ecosystem should be protection of the reef and its dependent fauna and flora, and the long-term objective should be to rebuild and extend the reef area (see table). The objectives for an urbanized/ industrialized ecosystem should be to set standards for the effluent discharge, and regularly monitor the pollutant load in the coastal waters and in the body components of the organisms. The objectives for sustaining the

open-water ecosystem should encompass a combination of technical measures, closed areas and seasons, input and/or output controls, and a suitable system of access rights for all users. The objectives for the far-sea ecosystem should be to develop the fisheries for increasing the catch in a sustainable way.

Fisheries management programmes thus far remain as independent entities. As one of the multiple users of the coastal zones, some of the fisheries management programmes could be part of the Integrated Coastal Zone Management (ICZM). The ICZM programmes are less involved with control of fishermen or fisheries harvests, but more with habitats of fish and shellfish. In the ecosystem-based fisheries management,

there could be a close connection between the ICZM programmes and the management options for the first four ecosystems listed in the table (critical, vulnerable, polluted and estuarine).

Moreover, there could be a closer co-operation between the ICZM programmes and the small-scale fisheries, because the artisanal fisheries are conducted in inshore, lagoon and estuarine waters, where the ICZM programmes would be most relevant.

Ecosystem-based fisheries management is expected to yield short-term and long-term benefits. However, this type of management demands larger participation by the stakeholders initially, and perhaps governance by them at a later stage. A scientifically planned protocol and careful implementation of ecosystem-based management within a logistic timeframe is expected to sustain marine biodiversity and fisheries. §

This article is by E.Vivekanandan of the Madras Research Centre of the Central Marine Fisheries Research Institute, Chennai, based on his presentation at the ICSF/IOI Indian Ocean Conference in October 2001. The views expressed here are purely personal and they do not necessarily reflect the views of the organization to which the author belongs.

The Chennai Declaration

The Chennai Declaration on Sea Safety for Artisanal and Small-scale Fishermen was adopted at a recent BOBP/FAO workshop

Conscious that fishing is the world's most dangerous occupation with more than 24,000 deaths per year attributable to weaknesses in the institutional and regulatory environment, a declining resource base, and poor socioeconomic conditions in the sector;

Realizing that sea safety regimes are weakest amongst the artisanal and small-scale fisheries sectors, particularly in developing countries;

Realizing that more than 80 per cent of the world's artisanal and small-scale fishers are concentrated in Asia, where many of the coastal target stocks are over- or fully exploited;

Recognizing that the consequences of loss of life fall most heavily on the surviving families, for whom alternative sources of livelihood may not exist;

Concerned about the inadequacy of social and political will to address the issue of fatalities amongst artisanal and small-scale fishermen;

Accepting that the issue of safety for the artisanal and small-scale fisheries sectors is not fully recognized, or acknowledged, by fisheries policy objectives and further, that the focus is more on economic and resource management issues than the safety of artisanal and small-scale fishermen;

Concerned that current fisheries management regimes for coastal fisheries in the region may lead to increased levels of operational risk for artisanal and small-scale fishermen;

Concerned that safety measures, together with supporting regulations and standards relevant to the needs of artisanal and small-scale fisheries sectors, remain inadequately addressed by fisheries and maritime administrations in the region;

Recognizing that neither the Torremolinos International Convention for the Safety of

Fishing Vessels, 1977, as amended by the 1993 Protocol, and the 1995 Convention for the Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel are in force, nor are they applicable to fishing vessels under 24 metres in length;

Recognizing the limitations in institutional capacity of fisheries and maritime administrations in the region to undertake all responsibilities associated with their mandate;

Realizing that fishing operations are carried out in a hostile and hazardous environment from vessels often having weaknesses in their design, construction and equipment, thus being prone to failure;

Accepting that fishermen in both traditional and diversified fisheries are exposed to inherently high levels of risk and resulting accidents, for which there are few survival or rescue strategies;

Emphasizing the urgent need to address the multi-dimensional issue of sea safety for artisanal and small-scale fishermen on a regional basis and in a holistic manner; and

Recognizing that the problem is not insurmountable;

We, the representatives of Fisheries and Maritime Administrations, Coast Guard/ Navy and Fishermen's Associations, nominated by the Governments of Bangladesh, India, Indonesia, Malaysia, the Maldives, Sri Lanka and Thailand, having participated in the BOBP/FAO Regional Workshop on Sea Safety for Artisanal and Small-scale Fishermen held in Chennai, India from 8th to 12th October 2001, now therefore:

Resolve to address, as a matter of urgency, the issue of safety at sea for artisanal and small-scale fishermen;

Recommend that sea safety issues be comprehensively integrated into member country's fisheries policy and management

frameworks. This would include associated commitments under the Code of Conduct for Responsible Fisheries and other regional, inter-regional or global instruments and initiatives;

Recommend measures, which would result in a harmonized and holistic fisheries management framework for the Bay of Bengal;

Emphasize the need to rationalize institutional mandates, legislation, regulation and enforcement at the national level, in order to enhance sea safety in artisanal and small-scale fisheries;

Ensure the incorporation of FAO/IMO/ILO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels and the FAO/IMO/ILO Document for Guidance on the Training and Certification of Fishing Vessel Personnel into regulatory frameworks, as appropriate;

Recommend that fisheries and maritime administrations enhance their knowledge of the operations and constraints of the artisanal and small-scale fisheries sectors in order to formulate effective guidelines, standards and regulations for the safety of fishing vessels, including the certification and training of crews;

Recommend the development and implementation of education, training and awareness programmes, which satisfy regulatory requirements, while also building a culture of sea safety within artisanal and small-scale fishing communities;

Recommend that mandatory requirements for improving sea safety be supplemented by other strategies, which involve the participation of the fisher communities, families, the media, and other stakeholders in order to promote the adoption of a wide range of safety measures;

Recommend that member countries undertake measures directed towards ensuring enhanced economic viability of artisanal and small-scale fishing enterprises as an essential element of the sea safety issue;


Recommend that administrations consider the provision of financial and other incentives to encourage and ensure the widespread use of safety equipment, together with training in the use of such equipment;

Recommend that a programme of applied research and development be initiated, focusing on the development of cost-effective safety-related equipment relevant to the needs of the artisanal and small-scale fisheries sectors;

Strongly recommend the formulation and implementation of a regional sea safety programme, employing a consultative and participatory approach, building upon institutionally derived data, together with the operational experience of artisanal and small-scale fisher communities;

Recommend that the issue of sea safety be addressed on an urgent basis. This could be achieved through a regional mechanism such as the Inter-Governmental Organization proposed by the BOBP member countries during the 24th meeting of the BOBP Advisory Committee at Phuket, Thailand. (The Phuket Resolution - October 1999);

Agree to seek the support of the donor community for the development of a sea safety programme, and also request FAO to seek such assistance on our behalf.

Adopted on Friday, 12th October 2001 in Chennai, India 

The Chennai Declaration was adopted by participants from Bangladesh, India, Indonesia, Malaysia, the Maldives, Sri Lanka and Thailand, at the BOBP/FAO Regional Workshop on Sea Safety for Artisanal and Small-scale Fishermen held in Chennai, India from 8th to 12th October 2001

Don't dump wastes into the sea

In this extract of his memoirs, the pioneer of Japan's fishery co-operative movement exhorts fishermen to respect water bodies

As the first president of the newly-formed 'National Federation of Fishery Mutual Insurance Associations', I had to spend a large part of my time the following three years in order to realize the government's scheme. Finally, in February 1967, we succeeded in establishing this long awaited mutual insurance system.

I remain grateful to the fishermen of Hokkaido, who always took the initiative to strive to create a better system. They stood by me till the end, and together we have established the successful system under which the fisheries of Hokkaido are still managed today.

While I was president of the National Federation of Fishery Mutual Insurance Associations, I resumed the post of President of the National Federation of FCAs in 1967, and held the post until 1971. I had to spend much time dealing with the many problems related to administering these posts, and this came to be one of the most important periods in my career. I reported the matters that were discussed in Tokyo to the general assembly of the chairmen of the Hokkaido FCAs.

One of the most important matters was the establishment of the "Fundamental Law Concerning the Environment." We had many discussions about the establishment of this law, so much so that I have two boxes full of papers and tapes recording our proceedings.

From that material, I have selected a speech I gave at a "National Rally of Fishermen for the Prevention of Pollution" on 8 October, 1970 at the Tokyo Kyoritsu Auditorium while the law was still being debated in the Diet. In this speech, I detailed the historical significance of the fishermen's fight

against pollution. As we are today still faced with serious environmental problems, I hope you will realize the importance of supporting this fundamental struggle to preserve our natural resources in the oceans of the world.

"I'd like to welcome the more than 2000 ladies and gentlemen from fishery related organizations throughout the nation, who have gathered in Tokyo today. On behalf of the members of the host organizations, I sincerely thank you for taking part in this National Rally. Furthermore, I would like to express my appreciation to the many members of the Diet for taking time off from their busy schedules and for attending this rally to express their support for our aims.

As you may know, we have recently made many appeals to the public by organizing fishermen's rallies in each prefecture. As a result of our campaign, thousands of people throughout the nation have come to support our movement to prevent pollution. It seems as if we fishermen can truly lead and influence the public in this respect.

This rally has become a success because of the passion which the fishermen have for this cause. If we look back over the past few decades of high growth in the industries, it is not too much to say that the history of the fishing industry has been characterized by our struggle against water pollution.

Remote problems

Nevertheless, the general public has not listened to the cry of the fishermen; those outside the fishing industry reacted as if the problem of pollution was so remote that it did not concern them. Even our politicians, under the assumption that

they were promoting balanced development of the economy, gave priority to enterprises instead of preventing pollution. They trampled on our demands that natural resources be protected. We now know that their failure to make the proper decisions actually created obstacles to development and resulted in the current terrible conditions of our oceans.

This 'balanced development of the economy' has left us with seas in which fish can not live and rivers in which fish can not grow. Such a situation threatens not only those involved in the fishing industry, but also the well-being of all the citizens. In other words, the process of industrialization inevitably leads to the deplorable destruction of nature. That is a fact we must realize when we consider environmental pollution, and it is clear that the fishermen were correct to continuously appeal for the prevention of pollution.

A few moments ago, I stated that we fishermen are the leaders of the anti-pollution movement. We can make this claim because fishermen suffer most as a result of pollution, and it is the fishermen who have made continuous appeals to others to stop the damage. It is our sincere hope that all enterprises will strive to eliminate any negative influences their operations have on

nature. They must understand that they must give up some short-term profits and instead aim for fair and balanced development.

One fine example of the fishermen's struggle against pollution occurred in 1958 when fishermen who were engaged in aquaculture of nori in Chiba prefecture stood up in protest against the waste dumped into the Edo River by the Honshu Paper Company. Zengyoren supported their fight and tried to stir up public opinion by holding fishermen's rallies and petitioning the government to take strong measures against Honshu Paper. The central government then passed the 'Law for the Preservation of Water Quality,' which is still effective today.

This law, however, has not been truly effective, with the result that the expectations of the fishermen have been betrayed. Fishermen's livelihoods and lives have been continuously sacrificed in cases such as those involving mercury poisoning in Minamata and in the Agano River. These cases indicate a severe lack of respect for nature and for human life.

Frequent appeals

We fishermen gathered many times in Tokyo to protest the government's policy, and we made frequent appeals to the government and the Diet for the passing of the 'Fundamental Law to Protect the Environment'. Nevertheless, it was not

until the general public was faced with the serious problems of air pollution caused by traffic and by the damage caused to bays and coastal seas that the public became aware of the problem. In fact, the public actually became concerned only after the media started to present daily reports on the problem and the government decided to bring the aforementioned bill to the Diet for discussion.

When the government set up a committee to promote this law, we demanded that all enterprises be forced to review their pursuit of profit and their blind faith in science and technology, and that these enterprises be made to recognize their responsibility to society. We fishermen must unite and stand at the front of the anti-pollution movements, and we must protest all acts and operations that result in polluted rivers and seas.

Furthermore, we must also oppose the governments that have ignored these situations and allowed them to persist. We must demand that the government immediately establish fundamental measures for the prevention and eradication of environmental pollution.

I hereby state unequivocally that all our statesmen must take it upon themselves to resolve these serious problems, and that each and every politician should be courageous enough to take the lead in the struggle to create a harmonious nation with beautiful nature and a prosperous economy. I dare say that if they fail to take extreme measures, their policies will be useless.

I would also like to appeal to the general public. We must all stop throwing our waste into rivers and seas. These bodies of water are the reproduction centres which the fishermen have inherited from their forefathers. Each succeeding generation of fishermen has contributed to the health and well-being of the nation by supplying us with our foodstuffs. They can continue to do so only if we do not destroy their resources.

I would like to sincerely thank all the honourable members from the Diet who have helped us in our struggle to develop

our fishery industries. At the same time, I would like to appeal to you again to recognize the importance of the fishery industry. Once you realize how much our nation relies on fisheries, you will be able to transcend the ties to your political parties or party factions, and only then will you be able to make serious efforts to resolve the problem of environmental pollution.

In closing, to all the participants from the fishing communities throughout the nation, I would like to say, 'Let's work together to overcome the difficulties which we are sure to face.' In spite of my age, I promise to take the lead in this fight and to put all my energy into this movement. ♪

This tenth instalment is excerpted from the *Autobiography of Takatoshi Ando*, translated by Naoyuki Tao and James Colyn

News Round-up

Boundary fights

The **Pakistan** Fisherfolk Forum (PFF) has urged South Asian countries to stop fishermen from becoming victims of maritime boundary disputes.

The PFF, which is a non-governmental organization, also calls on countries to make working arrangements to provide fishermen access to grounds to sustain their livelihoods, reports *The Dawn*.

In its statement, the PFF said, "It is important that legislation to deal with the arrest and detention of fishermen in other coastal States' waters should not violate the spirit of Article 73 of the 1982 Fisheries Convention, the 1976 International Covenant on Civil and Political Rights, and the 1976 International Covenant on Economic, Social and Cultural Rights."

The PFF pointed out that if illegal operations were conducted within State territorial waters rather than the Exclusive Economic Zone (EEZ), fishermen should not be more severely punished than they would for a similar violation within the EEZ.

In recent months Pakistan's fisheries sector has been dogged by a series of vessel detentions by different States. In September, Balochistan fisheries authorities said over 80 Karachi-based vessels had been detained for operating within their territorial waters.

Guns 'n fishes

Fifteen Kenyans were among the 34 seamen detained in **Somalia** since July by Somali militiamen for allegedly fishing in Somali waters.

They were forced to spend 99 days in captivity under gun-wielding pirates.

"We were like prisoners during captivity without even freedom to question ill-treatment," one of the seamen told *The Nation* of Nairobi.

According to the Kenya Ports Authority acting merchant shipping superintendent, the crew members included 15 Kenyans, five Italians, one Romanian, 10

Senegalese, one Gambian and two Somalis. All were now safely back home, after being set free on 3 November. The vessel and the crew members were fined more than US\$750,000 by the Somali militia for fishing in Somali territorial waters. But the vessel owners insisted that they had a licence to fish in Somalia.

Subsidies die

Jim Sutton, **New Zealand's** Minister of Trade Negotiations, has called for an end to fish subsidies. He was talking at the recent World Trade Organization (WTO) meeting at Qatar. Sutton believes that eliminating subsidies will help nations who manage their fish stocks sustainably, as well as consumers, and the environment.

To achieve this goal New Zealand convened the 'Friends of Fish' committee at the WTO meet.

In supporting his plea, Sutton said the global fisheries trade was worth about US\$50 billion a year. Of this, about 20 per cent of the income comes from subsidies and transfers. "Those subsidies encourage overfishing and exploitation of stocks. It is not sustainable and if the system is not changed, fishing will be ruined, and the fishermen along with it," he said.

New Zealand has long been in the forefront of the effort to get nations to agree on ending harmful subsidies in the fisheries sector, working through the WTO. "This group had its first major success when the call for negotiations on fishing subsidies was included in the final draft declaration text in Geneva last month. Now the challenge is to ensure that the clause on fishing subsidies remains in the text if and when a final version is agreed on," said Sutton.

He pointed out that there was opposition to the current text from a few delegations—Japan, Korea, Canada, and the European Union. "But interest in maintaining the clauses is broadly based, and many

developing nations are particularly keen to see an end to fishing subsidies which devastate the markets on which their own fishing interests depend," he added. References to eliminating fishing subsidies was in the text at the Seattle WTO meeting two years

ago, when a bid to launch a new round of world trade negotiations failed.

"Ending fisheries subsidies is a critical environmental issue," said Sutton. "The scale of fishing industry subsidies is one of the reasons global fish stocks are in such a perilous state. Getting rid of those subsidies would be a win-win-win situation: a win for nations who manage their fish stocks sustainably because the price for fish would not be artificially driven down by subsidies. It would also be a win for consumers who will be able to buy the fish they want; and a win for the environment."

Toothy deal

Japan seems to have got a fair deal at the 20th Convention for

the Conservation of Antarctic Marine Living Resources (CCAMLR), held from 29 October to 2 November in Hobart, Australia.

The request for an increase in the country's exploratory toothfish (*mero*) quota in each of the six areas of the Antarctic between December 2001 and November 2002 was granted and the quota was increased 60 tonnes to 560 tonnes. In addition, similar applications from other countries were agreed, on the condition that measures are taken to protect sea birds.

Japan's application to increase the southern king crab (*centolla*) pot fishing quota in the Antarctic to 1,300 tonnes between December 2001 and November 2002 was also approved.

However, the quota for Antarctic krill adopted at last year's annual meeting remains unchanged:

preventive fishing quota: 4 million tonnes; total fishing quota for year 2000/01: 98,000 tonnes; fishing quota granted to Japan

(three vessels) for 2000/01: 67,000 tonnes.

In addition, some technological improvements were discussed for the Toothfish Catch Documentation Scheme, which was initiated in May 2000.

And finally, the Scientific Committee reported abnormally high catches of toothfish in FAO Area 51 (SW Indian Ocean adjacent to the Antarctic).

It was thus decided that a flag country should confirm vessels' position via Vessel Monitoring Services (VMS), if requested by a country where toothfish are landed.

Losing credibility

The credibility of the North East Atlantic Fisheries Commission (NEAFC) is at stake following the body's failure to agree on management regimes for a number of species in international waters, claims Scottish Fishermen's Federation president Alex Smith.

He said that NEAFC was in danger of proving a completely toothless body after third countries vetoed **European Union** moves to have control measures agreed for blue whiting and haddock fisheries. This

occurred at the Commission's AGM in London.

UN Agreement

The UN Fish Stocks Agreement (1995) or the United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks was adopted without a vote by the 56th session of the UN General Assembly on 28 November 2001.

The Final Act of the Conference follows the opening for signature of the Conference's

outcome: the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10th December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The UN Fish Stocks Agreement will enter into force on 11 December 2001, that is, 30 days after the deposit of the thirtieth instrument of accession to the Agreement by Malta on 11 November 2001.

HARBOUR

*Locked up in a midday hard as diamond
My eyes begin to fail.
The shore is charged with a fierce light:
A holiday of nails, broken glass, daggers,
Who will give me a helping hand?*

*And steamer and locomotive
Sirens carve the rippled air,
And crabs and lobsters crawl
Between fishermen's stone hands,
And a crowd of screaming blacks
Pierces me like knives.*

*The shore is charged with a hot light.
Who will cover the fire of clouds,
Help me to wait for the cold night?
A holiday of lightning, flames, embers.*

*And the ocean rocks with boats
And glitters with crooked mirrors.*

— by Henrikas Radauskas
Translated by Jonas Zdanys



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SAMUDRA REPORT can now be accessed on ICSF's home page on the World Wide Web at <http://www.icsf.net> or <http://www.icsf.org>

Published by
Sebastian Mathew for
International Collective in Support of Fishworkers
27 College Road, Chennai 600 006, India
Telephone (91) 44-827 5303 Facsimile (91) 44-825 4457
E-mail: icsf@vsnl.com

ICSF Brussels Office:
Rue du Midi 165, B-1000 Brussels, Belgium
Telephone (32) 2 - 513 1565 Facsimile (32) 2-513 7343
E-mail: icsfbrussels@yucum.be

Edited by
KG Kumar

Designed by
Satish Babu

Cover
Tuna Boat
Oil on canvas by Anil, Maldives

Photographs courtesy of
Hassan Maniku, PR Devadas/Malayala Manorama, Sebastian Mathew
Toshiya Unno/Shiznokia Shimbun Newspaper Co., Nalini Nayak
Réne Pierre Chever, Béatrice Gorez, D. Perrine, Wildaid, boep

Additional news courtesy of
Fish Information & Services
AllAfrica.com

Printed at
Nagaraj and Company Pvt. Ltd., Chennai

SAMUDRA REPORT No. 30 December 2001
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