Reforming Fisheries

Challenges for the millennium

Fish stocks are depleting and degrading because of over-exploitation, but fishers, entrepreneurs and policy-makers seem indifferent to the alarm bells on resource exhaustion. Bay of Bengal News looks at the crisis and at reforms needed in fisheries and aquaculture to resolve it – as analysed at several expert fora.

The world will run out of seafood by 2048 if marine fish stocks continue to decline at current rates, a group of 14 researchers have warned in the journal ***Science.***

Overfishing, pollution and other environmental sins have made fish stocks round the world plunge. In fact, marine catches have been declining since the early 1990s. And alarmingly, smaller sizes dominate the catches of most of the species, while higher-value species have given way to low-value/ trash fish. With the market for seafood expanding, the pressure on resources is getting ever more severe. The collapse of commercial fisheries could devastate the world economy — the fishing industry generates $80 billion a year, more than 200 million people depend directly or indirectly on fishing, seafood is the main source of sea protein for a billion people worldwide.

The study by the 14 researchers is based on nearly three dozen controlled experiments and a critical analysis of the FAO's worldwide catch data from 1950. Ecosystem records going back a thousand years were also researched — including sediment cores and archival data. In 12 marine ecosystems surveyed, the researchers found that a decline in biodiversity of 50 percent or more cut the number of viable fisheries by 33 percent, reduced nursery habitats by 69 percent, cut the ocean's capacity to filter and detoxify contaminants by 63 percent.

Fortunately, the findings have a positive side too. In nearly 50 areas where restrictions had been imposed on overfishing, the range of species in the water increased on an average by 23 percent within five years. This means sound management can halt the decline of fish stocks worldwide. The study concludes: "It's not too late to turn this around. It can be done, but it has to be done soon."

Let's look at the Bay of Bengal region. India's marine fish

production during the last 15 years (1990-91 to 2004-05) has been fluctuating between 2.3 and 2.99 million tonnes. The Maximum Sustainable Yield (MSY) revalidated in 2000 is 3.921 million tonnes, of which 2.280 million tonnes is available in the coastal waters and the remaining in the offshore areas of the EEZ. It is believed that coastal waters are already overexploited by about 0.3 - 0.6 million tonnes per annum. In offshore waters, there is additional catch potential of about 1.0 million tonnes (but details of species abundance are less known for offshore than for coastal areas; some definite information is available only for tunas and tuna-like species.)

Compound growth rate in the marine sector fell in the 1990s to 2.19 percent from the 3.99 percent achieved in the 1980s. Qualitative aspects of marine landings during the last one decade are even more disturbing. Some demersal varieties like shrimp have declined in stocks and fallen in average length and weight. The prized shrimping grounds of the northeast coast (Sandhead area) are almost barren today. The average sizes of ribbon fish and pomfrets are almost one-third of what they were in the last decade. If the same trend continues, the stocks might be wiped out in another decade.

What has led to this situation? Let's take India's mechanized fishing fleet of trawlers, purse-seiners, gillnetters and dol-netters. It has grown almost four times in 25 years – from 14 854 in 1980 (CMFRI census) to 58 911 in 2005 (CMFRI census). The traditional fishing fleet (including motorized boats) increased more moderately, by 1.4 times — from 134 741 in 1980 to 179 861 in 2005. During the same period, marine fish production increased only from 1.555 million tonnes (1980-81) to 2.960 million tonnes (2004-05). The 400 percent increase in the mechanized fishing fleet seems to be the main cause of overexploitation of marine resources.

In Sri Lanka, the estimated annual marine fish yield potential is said to be 250 000 metric tonnes (according to a 1978-80 survey conducted by RV Dr Fridtjof Nansen). Take actual marine fish production for the last 6-7 years. The potential yield seems to have been exceeded by about 15 to 45 thousand metric tonnes. What about the catch effort? The total fishing craft in Sri Lanka rose from 28 585 in 1981 (12 870 mechanised and motorized boats, 15 715 traditional boats) to 31 619 in 2004 (16 359 mechanized and motorized boats, 15 260 traditional boats). On the whole this increase does not seem to be alarming. But within the mechanized category, the FRP boats doubled in number from 5 738 in 1981 to 11 559 in 2004. These are day boats with outboard motors fishing in coastal waters. They are largely responsible for the resource overexploitation.

The examples of India and Sri Lanka clearly illustrate the point that unregulated access and unbridled mechanization and motorisation of traditional craft have led to overexploitation of resources. Developments in gear technology have further accelerated the problem.

What is the solution? ***Reduce fishing capacity*** – that should be the No.1 task of countries with an excessive fishing fleet. Even where stock assessments have not been carried out or where resource information is outdated, the "precautionary principle" should rule and the fishing fleet should be cut. Simultaneously, ***develop management plans for all commercial fisheries*** so that harvests are scientifically regulated. This may be politically sensitive issue, but sooner or later the reality has to be faced. Better to do it sooner and save fishery resources from collapse.

Tackle the issue of access to fisheries. Is it okay for anyone and everyone to fish with any craft? It's no longer so. ***Co-management*** – joint management by government

and local communities – is a good way to address this issue. Governments at both national and provincial levels should give high priority to co-management plans and action. So should NGOs and fishery associations. ***Ensure better monitoring, control and regulation of the fishing fleet and fishing gear, implement closed areas and closed seasons, protect nursery areas, create fish refugia*** – these would be other important measures.

Post-harvest losses, especially in tropical fisheries, mean far fewer fish for human consumption. No precise quantitative figures are available. But the ***quality*** of fish at landing centers leaves much to be desired. Discards of fish is another serious problem. Example: the industrial finfish and shrimp trawl fisheries of Bangladesh, which throw away sizeable quantities of low value fish. ***Conduct pilot-scale demonstrations on best practices and impart training to fishers*** to reduce post-harvest losses and discards.

The Code of Conduct for Responsible Fisheries (or the Code) was acclaimed with hallelujas when the FAO Conference adopted it in October 1995. It was regarded as a panacea for all ills that plagued global fisheries. Subsequently, the FAO developed several guidelines and plans of action to facilitate implementation of the Code. However, 11 years later, the Code is still to reach, let alone influence, grassroots fishers.

Mr Ichiro Nomura, Assistant Director General, FAO Fisheries Department told ***Bay of Bengal News*** in an interview (pages 5 - 6) that communication on the Code is very poor. ***Ensure that the Code is well-known, raise awareness about it, improve implementation*** – this is something the FAO, national and local governments and other agencies should seriously and urgently address.

A holistic approach toward reforms in fisheries would also require sound national policies: ***Remove harmful subsidies, improve hygiene and sanitation and safeguard consumer interests, ensure fishers a safe and healthy working environment, reduce operational expenses, bring down tariff and non-tariff barriers, particularly those that impact on the livelihoods of small-scale fishers, promote regional and sub-regional cooperation for sustainable development and management of fisheries and aquaculture.***

Reforming fisheries was the theme of a regional workshop organised by the Asia-Pacific Fisheries Commission (APFIC) in August 2006 in Kuala Lumpur, Malaysia. APFIC's discussions and recommendations have been covered in some detail in this issue of ***Bay of Bengal News***. (pages 25 - 32) The workshop urged upon member-countries a slew of interventions – reduce the capacity of trawlers and push-netters; improve gear selectivity; introduce more effective rights based management and co-management; protect juvenile nursery areas through refugia/ closed areas and seasonal closure; improve utilization of low-value fish through post-harvest interventions. Ensure better onboard handling, etc.

If one were to name a single challenge in fisheries today, it's about how to reverse stock depletion and check resource degradation. The two trends will become irreversible unless addressed urgently and within fixed time frames. The problem is serious but not insurmountable. Interventions must be multi-sectoral, not restricted to fisheries. Some problems have been caused by players outside fisheries. Industrial pollution is an example. Solutions must be discussed with these players.

Our ancestors passed on to us a legacy of healthy seas teeming with fish. That's how we in turn should pass it on to our descendants – lest they accuse us, quite rightly, of selfish and irresponsible dissipation.

– Y S Yadava

Paintings by school children in India, Maldives and Sri Lanka depicting post-tsunami reconstruction.