

# Regional Consultation on Management Plan for Shark Fisheries



The Regional Consultation on Preparation of a Management Plan for Shark Fisheries, held in Beruwala, Sri Lanka, on 24-26 March 2008, was an outcome of a suggestion made at the second meeting of the BOBP-IGO's Technical Advisory Committee (Chennai, February 2007) and endorsed at the third meeting of the Governing Council (Malé, Maldives, May 2007).

Fifteen delegates from India, Maldives and Sri Lanka took part in the consultation. Mr G Piyasena, Secretary, Ministry of Fisheries and Aquatic Resources (MoFAR), Sri Lanka, chaired the consultation.

Welcoming the delegates, Dr Yugraj Singh Yadava, Director of the BOBP-IGO, discussed the critical state of the global fishery. The FAO's report for 2006 showed that global capture fish production had reached a plateau, with most fish stocks being highly exploited. The Bay of Bengal (BoB) apparently is still the least exploited, but this phenomenon may reflect insufficient reporting rather than untapped potential. It is disturbing that small-sized fishes are being exploited more and more. Result: lower catch per unit effort and low fisher incomes.

Dr Yadava said that sharks have been an age-old fishery in India, Maldives as well as Sri Lanka, and shark landings are a source of livelihoods for many. Every part of shark has an economic value. However, shark stocks are now under threat; many species of sharks figure in the IUCN Red List. It is essential that negative impacts on shark populations are addressed urgently and a management plan

formulated. He hoped that the present consultation would debate the subject and enable a road map for management plan on shark fisheries.

Mr Indra Ranasinghe, Director General (Development), MoFAR, Sri Lanka, said that reliable information was needed for a management plan, which in turn was needed to create awareness and education among stakeholders. He urged co-operation among member-countries in management, also periodic review and revision of management effort.

Mr Piyasena said that for centuries, artisanal fishers of Sri Lanka had harvested sharks as a non-targeted fishery. In recent decades, modern technology and access to distant markets had increased shark fishing effort and landings. The current view was that directed shark catches and certain multi-species fisheries in which shark catches constituted a significant by-catch should be better managed.

Mr Piyasena pointed out that member-countries of the BOBP-IGO, including Sri Lanka, were yet to develop a national plan of action on the basis of the International Plan of Action for Conservation and Management of Sharks (IPOA-Sharks) formulated by the FAO within the framework of the Code of Conduct for Responsible Fisheries (CCRF). He hoped the present consultation, a timely initiative, would lead eventually to national plans for shark management.

## *Technical Session*

Dr E Vivekanandan, Principal Scientist, Central Marine Fisheries Research Institute, Kochi, India, made the first presentation on the "Status of Shark Fishery in Indian Exclusive Economic Zone (EEZ)". He said that of the 47 species of sharks that occur in the Indian seas, six species constitute a major fishery. Some 15-20 000 fishers engage exclusively in shark fishing. Average annual shark landings (1985-2006) amounted to 36 021 tonnes.



*Participants at the Regional Consultation.*

**Gantt chart for proposed activities to support preparation of a management plan for shark fisheries.**

Sl. No.	Management aspects	2008					
		May	June	July	August	September	October
1.0	Preparation of comprehensive status paper on shark fisheries	←		→			
2.0	Stakeholder consultation		←		→		
3.0	Setting up the data collection mechanism			←	→		
4.0	Setting up of National Task Force	←	→				
5.0	Setting up of a 'Shark Portal/ Website'				←	→	
6.0	Preparation of 'awareness material'				←		→
7.0	Indigenous traditional knowledge – documentation of a case study		←				→

He said that in the last few years, the fishery was shifting oceanward from the coast. Trawls, gillnets and hooks and lines accounted for about 95 percent of the shark landings. Potential yield of sharks in the continental shelf of the Indian EEZ had been estimated at 45 064 tonnes, and that of pelagic sharks beyond the continental shelf at 26 200 tonnes.

Dr Vivekanadan said that slow growth and late maturation – typical characteristics of the shark species – made them highly vulnerable to overfishing. During 1998-2005, an annual average of 853.7 tonnes of shark products valued at US \$ 5.9

million were exported. Four species of sharks, *Carcharhinus hemiodon*, *Glyphis gangeticus*, *G. glyphis* and *Rhiniodon typus* are protected by law. Measures were needed to sustain the stock of sharks without affecting the livelihoods of fishers.

Ms Mariyam Saleem, Reef Ecologist, Ministry of Fisheries, Agriculture and Marine Resources (MoFAMR), Government of Maldives, said that the shark fishery in her country grew after exports began in the late 1970s, fuelling demand for high-valued shark fins, salted shark meat and shark liver oil from gulper sharks. Three types of shark fishery are carried out in the

Maldives – the reef shark fishery, oceanic shark fishery and the deep water gulper shark fishery. Stocks, particularly of reef and oceanic shark fishery, have been depleted by heavy exploitation. Recovery of the stocks is not easy for species with the biological attributes of sharks.

Ms Saleem said that several conflicts had arisen over the years between shark fishermen on the one hand, and the tourism sector and the tuna fishing industry on the other. A 10-year moratorium had been imposed in 1998 on shark fishing inside and within 12 miles from the rim of seven atolls in the Maldives. This was meant to address the conflict between shark fishermen and the tourism sector. Additionally, to address conflicts between the shark and tuna fishermen, shark fishing had been banned from two locations in the south of Maldives, which are considered good fishing areas by tuna fishermen.

Ms Saleem said a 2003 survey showed that shark fishing was carried out in 22 islands (the figure has since fallen to 11) by 132 fishing vessels and 528 fishermen in 2003. Annual shark exports have fallen in value from MRf 15 to 20 million in the 1990s to below MRf 10 million now, said Ms Saleem.

Ms Saleem said that on the basis of diminishing stocks and FAO's call for shark protection, experts have recommended a ban on export of all products from reef and oceanic sharks in the Maldives, after a grace period of two years. She highlighted measures to mitigate the impact of such a ban on the livelihoods of shark fishermen in the Maldives.

Dr Champa Amarasiri, Director, Research and Development, National Aquatic Resources Research and Development Agency (NARA), Sri Lanka, made a presentation on shark fisheries in Sri Lanka's EEZ. She said that during the past two decades fishing activities had got extended to the edge of the 200 mile EEZ and even beyond.



*The Regional Consultation in progress.*

Shark capture in Sri Lanka is about four or five decades old. A majority of the shark catch is a by-catch from tuna long line and gill net boats. Sharks are targeted directly by long line and deep water fisheries, but this effort is rather insignificant, Dr Amarasiri said.

Shark catches have been decreasing rapidly during the past 10 years because of restrictions in fishing areas, also because more and more fishers are moving towards tuna longline fisheries. Catches comprise mainly silky sharks and another 12 species.

Dr Amarasiri said that the estimated total catch of sharks was 2 101 tonnes in 2006 and the total number of people engaged in this fishery were around 15 000. There is no management plan for shark fisheries in Sri Lanka. However, the Fisheries Act and other environmentally related legislations of Sri Lanka have provisions to conserve and manage shark fisheries in the country.

Following the country presentations, Dr Y S Yadava discussed an action plan to formulate a management plan for shark fisheries. He referred to the peculiar characteristics of sharks – they are distributed in coastal waters and the deep seas; some stocks are migratory and shared among the three coastal states; the stocks are exploited by both targeted and non-targeted fishery; knowledge on their taxonomy, biology, breeding and distribution is poor. A sound monitoring and control mechanism for shark in a given fishing area is therefore difficult.

Dr Yadava discussed the proposed ‘Guidelines for Preparation of Management Plan for Shark Fisheries’ that had been drawn up by the Secretariat in accordance with the CCRF and the IPOA-Sharks. The Guidelines include a “Framework for a Management Plan on Sharks,” which has four main heads relating to information, institutional arrangements, stakeholders, and finance and funding.



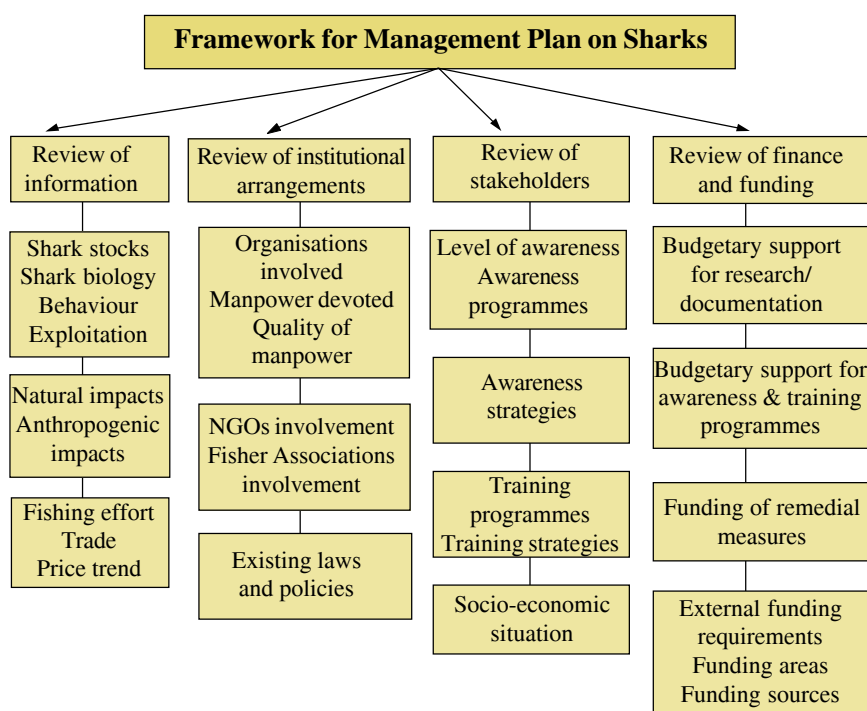
On the basis of the framework for a management plan, an indicative discussion map with six log-tables was given to the delegates. The log tables were headed as follows:

- **Log 1:** Status of shark fishery in the BoB (comprising knowledge of fish stocks; of breeding behavior; of breeding grounds; of fishery and fishing effort; etc.)
- **Log 2:** Natural and anthropogenic impacts (relating to existing quantitative and qualitative natural and anthropogenic impacts; possible threats; suggested remedial measures and agencies that could carry out these measures; and anticipated cost of these measures).
- **Log 3:** Socio-economic analysis – institutional arrangements.

(relating to R & D institutions and their spheres of coverage; ongoing schemes; budgetary allocation; manpower involved in R & D; NGOs active in shark fisheries management programmes; fisher associations; existing legislative and policy support.)

- **Log 4:** Socio-economic analysis – awareness creation and training (comprising methods used and materials developed; extent and scope of awareness drive; feedback on awareness drive; possible future approaches; budgetary allocation on awareness drive; the role of NGOs; quality of extension and field staff; training programmes organized.)
- **Log 5:** Socio-economic analysis – livelihoods and trade (comprising such points as the socio-economic status of shark fishers; the structure of the shark fisheries market, its volume and scope, price trends, ways to reduce fishing, alternative livelihood options, etc.)
- **Log 6:** Economic analysis – funding requirements and provisions (relating to possible additional funding needed to carry out activities; external funding received so far; utilization rate of external funding; areas where additional funding could be used.)

Delegates discussed issues for their country among themselves and



pooled their knowledge to analyze the shark fishery in terms of the information sought in the log tables. They identified gaps in information and the future course of action.

Dr Vivekanandan presented the log tables for India. He emphasized the need for more taxonomic work on the sharks; revalidation of the shark stocks with additional scientific inputs; data on species-wise effort; biological investigations covering a larger number of shark species, especially those inhabiting the deep seas; natural and anthropogenic impacts on shark fisheries.

He said that India has 5-6 fisher groups that carry out targeted fishing for sharks. Awareness drives could be first attempted for such focused groups with the help of dedicated NGOs working in the area. A task force on the pattern of 'Project Tiger' may be considered to manage shark fisheries. Indigenous traditional knowledge could be documented.

Presenting the log tables for Sri Lanka, Dr Amarasiri referred to the dearth of data on oceanic sharks. As for reef-associated sharks and gulper sharks, systematic knowledge on biology, breeding and related attributes is lacking. There is no significant targeted fishing for sharks in Sri Lanka, but non-targeted fishing, especially that associated with tuna long lining and gill netting, can be a problem for shark stocks. There are no on-going research programmes on shark fisheries *per se*, but they are covered in a limited manner under investigations on 'larger pelagics' carried out by NARA.

Mr Mohamed Shainee, Assistant Director-General, MoFAMR, described the shark fishery in the Maldives as unique. At present, only 11 islands in the country engage in it. Information on shark fishing is limited and species-wise data is lacking. Production figures are computed from exports – which label sharks as a single group. Maldives had prepared a status



paper on shark fisheries in 2003, which was updated in 2006. But further study is required on trade aspects of shark fisheries. Awareness is important, so is traditional management knowledge. A website on shark fisheries could be useful for information dissemination.

#### ***Constitution of Technical Committee***

The Regional Consultation agreed to constitute a Technical Committee in each country to initiate action on the requirements identified at the Consultation.

#### ***Proposed Action Plan***

On the basis of the deliberations, the Consultation agreed on the following set of activities for implementation. Support would be provided by the BOBP-IGO as per an agreed action plan.

- (i) A comprehensive status paper on shark fisheries resources, including a research bibliography.
- (ii) A stakeholder consultation on management of shark fisheries in each of the three countries. The Consultation will also discuss and identify alternative livelihoods.
- (iii) Setting up of a data collection, collation and compilation mechanism on shark fisheries, especially species-wise data,

which would aid in the successful implementation of the management plan.

- (iv) Setting up of a 'National Task Force' on shark fisheries management.
- (v) Setting up of a shark portal or website for the Bay of Bengal region.
- (vi) Documentation of indigenous traditional knowledge for management of shark fisheries.
- (vi) Preparation of awareness materials on conservation and sustainable exploitation of shark fisheries.

To carry out these activities in a systematic time frame, a Gantt chart covering the period May - October, 2008 was agreed to by the Regional Consultation (see page 48). It was also decided that the next meeting would be held in the Maldives during the last quarter of 2008, subject to the approval of the Government of Maldives.

In conclusion, Mr Piyasena said the Consultation had enabled a good opportunity to initiate preparation of a management plan for sharks. He thanked the BOBP-IGO Secretariat and the delegates, also Maldives for agreeing to host the next meeting.