

Sea Safety Programmes in Bangladesh

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Bangladesh has a coastline of 714 km and an Exclusive Economic Zone (EEZ) of 164 000 km² of which the continental shelf takes up 44 percent. The country has a vast river network and a dynamic estuarine ecosystem. A drainage basin — covering also parts of India, Nepal, Bhutan and China, with waters draining into the Bay of Bengal — intersects the coastal zone of Bangladesh. The coastal zone includes coastal plains, islands, tidal flats, estuaries, and neritic and offshore waters. It houses several natural mangrove forest ecosystems, including the Sundarbans that supports a rich aquatic biodiversity.

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The total fish production in Bangladesh is 2.10 million mt, of which marine fisheries accounts for around 21.66 percent. The fisheries sector contributes 5.71 percent of the total export earnings and 4.92 percent of the GDP, and employs 1.2 million people (full time) and 12 million people part-time. Total fish production has been increasing over the decade, mainly because of aquaculture. 92.7 percent of marine catches are landed by artisanal fishers who employ smaller and less efficient fishing boats and gear to catch post-larvae and juveniles.

Unplanned and uncontrolled expansion of fishing activities, particularly in the inshore artisanal sector, have reduced the potential of marine fishery resources. On the other hand, a number of fish species remain unexploited or under-exploited. But for Hilsa (*Ilisha tenuialosa*), pelagic fishery resources

have remained untapped. The government recently sanctioned 50 offshore boats to diversify resource exploitation.

Because of rough weather conditions in the bay over three quarters of the year, safety at sea is an important issue. Deaths of fishers and loss of boats and gear are common. A number of rules relating to fisher safety and seaworthiness of fishing vessels are being implemented by the Mercantile Marine Department (MMD). The 'Bangladesh Fishing Vessel Equipment Rules, 2005' are a part of the Bangladesh Merchant Shipping Ordinance, 1983 (Ministry of Shipping).

The Department of Fisheries (DoF), which manages marine fisheries resources, issues licenses only to fishing boats that have obtained registration certificates from the MMD. The Marine Fisheries Ordinance, 1983 and subsequent rules address issues like fishing effort control, mesh size control, closed seasons, marine parks and sanctuaries, zoning of fishing areas



..., but not matters relating to safety of fishers at sea.

Coastal fishing operations & outputs

Different fisheries have different target species. The trawl fishery, and in particular the shrimp trawlers, target penaeid shrimps. The ESNB (estuarine set bag net) fishery, which is the predominant fishing method used by artisanal/ coastal fishers, largely targets juvenile fish. The key commercial marine shrimp species are *Penaeus monodon* (tiger shrimp), *Penaeus indicus* (white shrimp), and *Metapenaeus monoceros* (brown shrimp). The major commercial landing of finfish species comes from hilsa, pomfret, catfish, hairtail, croaker, shark, Indian salmon, Bombay duck and jewfish. Hilsa is the only single-species pelagic fishery in the commercial sector operated with mechanized boats.

During the last two decades, marine fisheries has expanded rapidly, thanks to initiatives taken in the 1970s. The marine catch has gone up from only 95 000 tonnes in 1975-76 to about 455 207 tonnes in 2003-2004. The sector has an estimated 22 500 non-mechanised and 21 400 mechanised fishing boats plus 120 industrial trawlers (46 shrimp trawlers, 74 finfish trawlers).

This fleet has been permitted to expand with a further 50 trawlers for fin fish to be used in the deeper waters of the EEZ. More than 167 400 fishermen are employed in marine fisheries, and an estimated 185 000 people in shrimp fry collection. At present, only one-third of the EEZ is covered by these fishing vessels.

Artisanal fishing crafts and gear

Artisanal fishing operations in the estuaries and coastal waters used to be carried out by traditional craft until the mid-1960s. The process of mechanisation was started in 1966 (through the Bangladesh Fisheries Development Corporation and the Bangladesh Jatio Matshyajibi Samabay Samity) with import and introduction of marine engines.

According to a survey conducted by the DOF in 1984-85, a total of 17 331 boats were in operation in the marine artisanal and small-scale fishery, of which 3 317 were mechanised boats. A later survey (in 2001) showed a drastic increase in mechanized boats to 22 500. But only about 5 000 of these are registered by the MMD.

Three types of traditional boats exist in the country. These are plank-built "Dingi" and "Chandi" and dugout 'Balam'. These boats are operated by oar/ sail. The Dingi, Chandi and Balam are 6-7 m, 10-15 m and 10-20 m in length respectively. These boats are mainly used for ESNB and gillnets. Mechanised boats are operated by 9-33 HP engine with 6-10 crew on board. The gross tonnage of these boats is 7-8. But most of them catch only 2-3 tonnes per trip of 4-6 days. The gear mostly used with these boats are drift gillnets, behundi nets (MSBN) and longlines.

Artisanal fishing gear include those operated by mechanised, motorised and country boats. There are five different types of gill nets, three types of set bagnets, trammel net, bottom longline, beach seine and shrimp seed collecting gear. The ESNB are the most widely used and widely distributed artisanal fishing gear in Bangladesh, as in several other neighbouring countries.

Monitoring, control and surveillance (MCS)

The MCS system exists in practice only for the industrial trawl sector. A practical approach would be to deploy limited MCS units at coastal ports and rely heavily on stakeholder management, with the traditional village community structure providing the basis for MCS. Ideally, MCS should be implemented by a combination of mechanisms – licensing by the authority and monitoring of gear and landings at designated ports. The prospects for co-operative stakeholder policing in this sector are poor, but there are no alternative strategies. At present, a speedy

MMD system for licensing mechanised boats is in progress.

Management issues:

Management of marine fisheries focuses on the industrial trawl sector, and is carried out by a marine wing based in Chittagong. There is no management and monitoring of the artisanal sector which operates out of Barisal, Bhola, Patuakhali, Barguna and other areas where fishing pressure is heavy. Community participation in management planning and implementation is totally absent.

Fishermen's safety measures and the provisions of the Marine Fisheries Ordinance (MFO), 1983

This ordinance prohibits some methods of fishing, names fish species that cannot be caught during a particular season, stipulates mesh sizes of fishing nets, prohibits the landing and carrying of fish below a certain size and catching of fish species at certain times of the year.

The ordinance has provisions for regular monitoring of fishing effort and monitoring of fish catches. But safety measures for fishers are not covered by this ordinance. It should be reviewed and safety protocols included.

Licensing of fishing vessels

There is a substantial discrepancy in fleet size figures between the MMD (which has registered 4 000 mechanised vessels) and the DOF (which says that the fleet comprises 50 595 vessels).

The 1999/ 2000 DOF estimate of 28 698 vessels for the artisanal fleet may be reasonable.

Status of GoB programmes for fishermen's safety at sea

The DoF routinely carries out a dialogue with the MMD, which is principally responsible for fishers' safety at sea, and with other departments that are concerned with fishers' safety measures e.g. the Disaster Management Bureau, the Bangladesh Coast Guard and the Bangladesh Navy.

The DoF brought in an interesting community programme to strengthen sea safety – introduction of community radio in the coastal district of Cox’s Bazar. This was done through the FAO/ UNDP’s Empowerment of Coastal Fisher Community Project (ECFC). The project encourages coastal communities to organise themselves into attaining their collective goals – economic, social, educational and political.

Coastal district fishery officers have now been empowered to take up fisheries licensing and legislative work. This is a follow-up to the recently developed Marine Fisheries Strategy Document which has said that nursery grounds up to five kilometers from the coastline should be protected to strengthen recruitment in deeper waters.

Bangladesh Fishing Vessel Safety Equipment Rules, 2005

Fishers’ safety at sea is covered by rules framed under the Bangladesh Merchant Shipping Ordinance, 1983 — the Bangladesh Fishing Vessel Safety Equipment Rules, 2005, to be specific. However, the MMD is not in a position to effectively undertake the registration survey (prescribed in the rules) or examine vessel sea worthiness and safety equipment on board, because it is short of manpower and there are no office establishments all along the coast line. The power of boat licensing has been delegated to Coastal District Fishery Officers. So the

MMD and coastal district fishery officers should work together to make boat licensing effective.

Rules framed under Bangladesh Merchant Shipping Ordinance, 1983 (Ord XXVI of 1983)

Some relevant provisions (those that relate to sea safety) are:

1. Marking of vessels: The name of the vessel should be entered in bright colours on a dark background.
2. Marking with retro-reflective materials: Everything including life jackets.
3. Stowage of safety appliances.
4. Training manual on board fishing vessels.
5. Fishing vessel safety certificate.
6. Life-saving appliances.
7. Radio equipment.
8. Navigational equipment/ aids.
9. Fire-fighting appliances.

NGO activities and community organisations in coastal fisheries

Training and awareness programmes are being undertaken to some extent by some NGOs. These programmes are presently being done separately by each of the NGOs. But jointly planned and implemented programmes would be far more effective.

Fisher safety issues addressed by the DoF/ FAO ECFC Project

The philosophy of the ECFC Project was based on sustainable livelihoods. This Technical Assistance Project, piloted in 118

fishing villages of Cox’s Bazar district, aimed at empowering coastal fishing communities. Currently the project is attempting to implement its exit strategy.

Several lessons have been learnt from the ECFC model. These can be considered as Best Practices, as key elements for sustainability. They cover all stages of project formulation, implementation and post-project activities. They enable the project to organise, mobilize and manage human capital towards achieving collective economic, social, educational and political goals.

Government agencies, community organisations and donor agencies are keen to expand this model to the rest of the country.

Socio-economic development and capacity-building

A major weakness of marine fisheries administration in Bangladesh is that it is weakly staffed; technological know-how is inadequate and limited to fishery biologists. There are no experts/ professionals in several areas of marine fisheries. For example, no gear technologists, fishery economists or socio-economists.

A GoB- funded project is in the pipeline to address the issues of rehabilitation of the fishers and their safety at sea. The DoF will help develop a sustainable community radio programme, through institutional soft credit support.

The way forward

The DoF should be pro-active in liaising with other ministries to ensure that rules related to the safety of fishers at sea are implemented. The MMD (Ministry of Shipping), the Bangladesh Navy and Coast Guard and the Disaster Management Bureau should be involved in the effort through an institutional coordination mechanism. Assistance from international organisations such as the FAO may be obtained in this context, perhaps under the umbrella of the Code of Conduct for Responsible Fisheries.

