

# Status of Sea Safety Programmes for Small-scale and Commercial Fishermen in Myanmar

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**T**he Union of Myanmar has a coastline of 2 832 km on the Bay of Bengal (BoB).

It shares common maritime boundaries with Bangladesh and India in the BoB and with India and Thailand in the Andaman Sea. The continental shelf covers an area of 230 000 sq km; the central and southern parts of the shelf are relatively wider than the others.

Myanmar's fisheries waters, which include a territorial sea and an Exclusive Economic Zone (EEZ), add up to 486 000 sq km. Its coastline can be divided into three coastal regions: the Rakhine coastal region, the Ayeyarwady or Gulf of Mottama region (the Delta zone) and the Tanintharyi coastal region.

**The Rakhine coastal region** stretches 740 km from the Naaf river to Mawdin point and covers an areas of 367 780 sq km.

**The Ayeyarwady delta zone** lies between Mawdin point and the Gulf of Mottama. The Ayeyarwady River, together with the Sittaung and Thanlwin rivers, enters the Andaman Sea through nine principal mouths.

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**The Tanintharyi coastal zone** covers an area south of Mottama up to the mouth of the Pakchan River and includes the Myeik Archipelago and the Andaman Sea.

Marine living organisms depend for their sustainability on coastal mangrove and other forest resources, which serve as breeding and nursery grounds and as a source of detritus. Mangrove forests in the coastal region of Myanmar occupy some 382 00 ha. Of these, 274 795 ha are in the Ayeyarwady delta, 140 024 ha in the Taninthayi, and 64 752 ha in the Rakhine. Coral reefs are abundant in the islands of Myeik archipelago, also in the Rakhine coast.

## Marine Capture Fisheries

Myanmar's marine capture fisheries can be analysed in terms of fishing effort in the in-shore and off-shore fisheries.

**(a) In-shore fishery** – This refers to fisheries carried out five nautical miles from the shore in Rakhine and 10 nautical miles from the shore in the Ayeyarwady and Tanintharyi coasts. The fishing is done by passive fishing gear such as gill nets, drift nets, long lines, and traps, without the use of boats.

**(b) Off-shore fishery** – This refers to the capture fishery being operated by active fishing gear, with fishing vessels exceeding 30 feet in overall length and 12 H P of engine power.



The off-shore fishing grounds extend from the outer area of the demarcated in-shore fishery areas to the end of the EEZ. The main fishing gear: bottom trawl, purse seine, surrounding net, drift net, long line.

In 2000-2001, the Department of Fisheries (DoF) permitted 1 936 national fishing vessels to operate in the offshore fishery. Of these, 967 used trawls, 77 purse seiners, 778 used drift nets, and 114 used longlines. In the same year, 32 foreign fishing vessels were permitted to operate in the offshore fishery.

**Fisheries Waters:** The fisheries waters of Myanmar include those within the EEZ, the territorial sea, offshore, inshore waters, all inland brackish waters and fresh waters – 1989 Law, Section 2 (1).

**Fisheries resources:** Myanmar has a 1 800 km-long coastline. If

### Total biomass and MSY in Myanmar marine waters (Million metric tonnes)

Areas	Biomass			MSY		
	Demersal	Pelagic	Total	Demersal	Pelagic	Total
Rakhine	0.194	0.175	0.369	0.160	0.087	0.247
Delta (Yangon, Ayeyarwady, Mon)	0.334	0.505	0.839	0.220	0.252	0.472
Thanitharyi	0.256	0.295	0.551	0.170	0.147	0.317
<b>Total</b>	<b>0.784</b>	<b>0.975</b>	<b>1.759</b>	<b>0.550</b>	<b>0.486</b>	<b>1.036</b>

the large number of estuaries and islands are included, the total length of coastline would be close to 3 000 km. The continental shelf (0-200 meter depth) covers an area of 225 000 sq km.

With a view to identifying new fishing grounds and existing stocks and the rationale of exploitation, a Marine Fisheries Resources Survey and Exploratory Fishing Project was implemented in 1979-83 with FAO assistance. Project activities consisted of acoustic/ experimental fishing surveys with R V Dr Fridtjof Nansan and trawl surveys with a national vessel.

The surveys revealed a biomass of about 1 million metric tonne of pelagic fish and 0.8 million tonne of demersal fish in Myanmar marine fishery waters. Of this biomass, about 0.5 million tonne of pelagic fish and 0.55 million tonne of demersal fish totaling 1.04 million metric tonnes was regarded as annual maximum sustainable yield. (MSY).

#### Fisheries management and management measures

The DoF in the Ministry of Livestock and Fisheries is responsible for management of fisheries, conservation of resources, extension services, research, and national statistics in fisheries and fishery-related infrastructure.

Though Myanmar's marine fisheries have been growing steadily, there is scope for expanding fishing capacity to tap

unutilized resources. This is confirmed by catch reports, and by statistics of landings and surveys. Management measures include licensing; stipulating the exploitable species; listing environmentally-friendly fishing gear and methods; regulation of fishing effort through closed areas and closed seasons.

To ensure sound fisheries management, the Government has promulgated four fisheries laws. Salient features relating to management are:

- Reduction of fishing mortality.
- Preservation of areas, habitats and fishing grounds.
- Protection of specific stocks and species.
- Exploitation of resources on a rational and sustainable basis.
- Curbs on industrial activity harmful to the environment.
- Enforcement of fisheries laws and regulations.

To protect juvenile fish and shrimp, and avoid conflicts between artisanal fishermen and trawlers, trawling is banned within five miles from the shoreline at the Rakhine coast, 10 miles from the shoreline in the Ayeyarwady and Taninthayi

coasts. Two months, July and August, constitute a closed season.

Artisanal fishermen account for a major portion of the marine catch. It is therefore essential to meet their needs by increasing their incomes, strengthening their livelihoods and improving their environment. The system of zoning in fishing is meant to protect local fisheries. The DoF gives first priority to local fishermen by permitting them to operate in all zones. Besides, waters between the baseline and the coast, as declared in the Territorial Sea and Maritime Zone Law, are reserved entirely for local fishermen.

The sharp increase in demand for quality marine products has fuelled the exploitation of shrimp and other demersal resources. This has led to resource use conflicts, sometimes violent, between trawlers and small-scale fishermen. To ensure more equitable exploitation and to support the sustainability of small-scale artisanal fisheries, the DoF has sought to limit the size and engine power of fishing boats in inshore areas. The DoF also determines the type of fishery, volume of business by fishing method, the species of fish that can be exploited, size of fish, fishing implements and fishing grounds. All fishing licences stipulate conditions on these points.

The DoF has laid down figures for minimum mesh size and the minimum catchable size for the main fish species. Examples: the mesh size on fish trawl cod ends should not be less than 2.5 inches and 2 inches for shrimp trawl cod ends. The minimum mesh size

#### Number of inshore fishing vessels in Myanmar (2001-2004)

State & Division	2001-2002			2002-2003			2003-2004		
	Power	Non-Power	Total	Power	Non-Power	Total	Power	Non-Power	Total
Tanintharyi	8 731	2 102	10 833	9 364	1 746	11 110	8 382	2 394	10 776
Ayeyarwady	350	2 414	2 764	977	3 010	3 987	641	1 882	2 523
Yangon	70	-	70	70	-	70	70	-	70
Mon	1 847	19	1 866	2 046	15	2 061	1 844	41	1 885
Rakhine	2 593	10 114	12 707	3 150	10 042	13 192	2 727	11 880	14 607
<b>Total</b>	<b>13 591</b>	<b>14 649</b>	<b>28 240</b>	<b>15 607</b>	<b>14 813</b>	<b>30 420</b>	<b>13 664</b>	<b>16 197</b>	<b>29 861</b>

### Number of offshore fishing vessels in Myanmar (1999-2004)

State/ Division	2001-2002	2002-2003	2003-2004
Yangon	478	756	714
Rakhine	48	85	24
Ayeyarwady	574	786	737
Mon	227	267	246
Tanintharyi	402	415	400
<b>Total</b>	<b>1 999</b>	<b>2 309</b>	<b>2 121</b>

should be 8 inches for large- mesh drift nets and 3.5 inches for small-mesh drift nets.

#### Socio-Economics

Myanmar has some 2 646 710 active marine fishermen – both full-time and part-time. Some of them also engage in fish processing, marketing and mending of fishing gear.

Fishing being a seasonal occupation lasting just a few months, fishermen also take up other occupations such as farming.

Most fishing vessels are owned not by fishermen but by petty businessmen, who appropriate a major share of the catch. The financial status of fishing communities is unknown. Baseline information is now being collected, to improve understanding of the traditional fisheries system.

#### Policy and Objectives

The principal objectives of the fisheries sector are:

- To promote all-round development in livestock and fisheries.
- To increase fish production for domestic consumption and share the surplus with neighboring countries.
- To encourage the expansion of marine and freshwater aquaculture.
- To improve the socio-economic status of the fisher community.

#### Ensuring sea safety

A fishing boat registration system has been introduced at specific checkpoints to provide information about fishing boats lost or damaged at sea. Government radio stations broadcast weather reports.

But the system for ensuring safety at sea is inadequate. Nearly all artisanal fishermen live in remote areas. They lack the means, the education and the awareness for safe practices. They do not use life jackets or life rafts – they depend on home-made contrivances such as plastic containers and drums. If they fall ill, they resort to home remedies and indigenous medicines; the organised medical system is expensive. They can't afford radio equipment on their boats. Further, radio telecommunication for small-scale fishing boats is not well developed in Myanmar. It is therefore up to the Myanmar Navy to help fishermen at sea in distress.

Small-scale fishermen urgently need training on the precautionary approach to minimize accidents at sea. They need to upgrade their knowledge of fishing technology. Coordination and cooperation on these issues are needed with international and regional organizations.



### Marine Fisheries Production (2000 to 2004)

Unit: Thousand Metric Tonnes

Year	Marine Fisheries Production
2000-2001	949.67
2001-2002	1029.46
2002-2003	1053.72
2003-2004	1132.34

#### Fishing communities in tsunami-affected area

The main tsunami-affected area in Myanmar is the Pyinsalu sub-township, Laputta Township (Myaung Mya District, Ayeyarwaddy Division). In seven villages in the main area of Laputta Township, 25 people were killed, while 289 homes and 123 fishing boats were destroyed. At Kawthaung, Tanintharyi division in the southern part of Myanmar and in Rakhine State, in the western part of Myanmar, some people were killed; some homes and fishing boats were destroyed.

#### Preventive measures

The DoF believes that the following prevention measures are necessary against the tsunami.

1. Mangrove conservation should be promoted to set up natural barriers against the tsunami.
2. Buildings should be constructed off the shoaling space. Tsunami-resistant features should be incorporated in them.
3. People living on the sea shore areas should be educated about the tsunami.
4. Transport facilities should be available to quickly move people and materials to safe areas.
5. Food, water and medicines should be provided to victims of the tsunami. Other relief works should be undertaken.
6. A tsunami early warning system should be set up. A regimen for emergency evacuation to safe areas should be rehearsed in every region.