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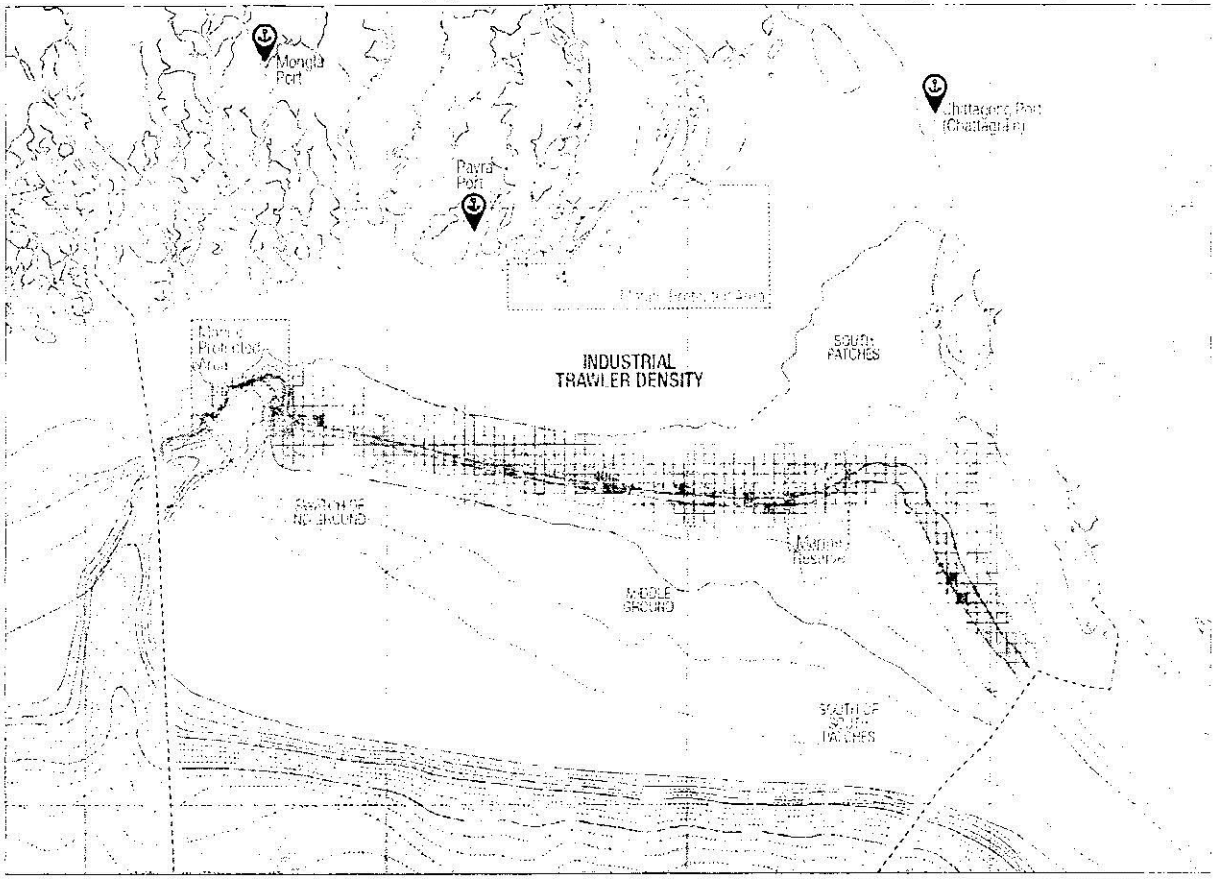
Bangladesh Marine Fisheries Management Plan: Part 1- Industrial

Based on Ecosystem Approach to Fisheries Management (EAFM)



Department of Fisheries
Ministry of Fisheries and Livestock

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Abbreviations

ABNJ	Area beyond National Jurisdiction
AIS	Automatic Identification System
BCG	Bangladesh Coast Guard
BFDC	Bangladesh Fisheries Development Corporation
BFRI	Bangladesh Fisheries Research Institute
BMFA	Bangladesh Marine Fisheries Association
BN	Bangladesh Navy
BOA	Boat Owners Association
BRD	Bycatch Reduction Device
BWFTOA	Bangladesh White Fish Trawler Owners Association
CMC	Co-Management Committee
CPA	Chittagong Port Authority
CPUE	Catch per Unit Effort
DoF	Department of Fisheries, Bangladesh
DoS	Department of Shipping
EAFM	Ecosystem Approach to Fisheries Management
ECDIS	Electronic Chart Display Information System
ECA	Ecologically Critical Area
EEZ	Exclusive Economic Zone
ESBN	Estuarine Set Bag Net
EU	European Union
FAB	Fisheries Advisory Body
FMP	Fisheries Management Plan
FPI	Fisheries Performance Indicator
GoB	Government of Bangladesh
HACCP	Hazard Analysis Critical Control Point
HCR	Harvest Control Rule
HFMP	Hilsa Fisheries Management Plan
IPOA	International Plan of Action
IUU	Illegal, Unreported and Unregulated
JMC	Joint Monitoring Centre
JMC-CC	Joint Monitoring Centre Coordination Committee
KPI	Key Performance Indicator
MCS	Monitoring, Control and Surveillance
MFO	Marine Fisheries Office
MFOrd	Marine Fisheries Ordinance

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MFR	Marine Fisheries Rules
MFSC	Marine Fisheries Surveillance Check Post
MFSMU	Marine Fisheries Survey Management Unit of DoF
MMO	Mercantile Marine Office
MoFL	Ministry of Fisheries and Live stock
MPA	Marine Protected Area
MR	Marine Reserve
MSY	Maximum Sustainable Yield
NPOA	National Plan of Action
PSO	Principal Scientific Officer
SDG	Sustainable Development Goal
SOP	Standard Operating Procedure
SP	Sailing Permission
TAE	Total Allowable Effort
TED	Turtle Excluder Device
VMS	Vessel Monitoring System

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Vision and main objectives

The marine fisheries of Bangladesh are providing economic benefits and decent livelihoods through sustainable management of fisheries resources and conservation of ecosystem health.

Management of marine fisheries under the ecosystem approach to fisheries includes due consideration of human well-being, ecosystem health, and good governance through a comprehensive co-management planning process. In Bangladesh marine fisheries this will include sector specific plans for the artisanal marine and industrial marine fisheries.

This document presents the industrial marine sector Fisheries Management Plan (FMP) based on the ecosystem approach for the sustainable development and harvest of marine fisheries.

Introduction

Although Bangladesh has over 118 thousand square kilometres of sea area in the Bay of Bengal to a depth of about 2200 meters, its known marine fisheries resources are presently limited to the shallow shelf-sea, to a depth of about 80 m, which constitutes only about 36% of the Exclusive Economic Zone (EEZ). Within the shelf sea area, only about 14,600 km^2 (12%) are known to be fishing grounds of commercial significance. Only a small fraction of the several hundred known species of fishes, shrimps, crabs and other animals that are caught in this multi-species fishery are of economic and fishery significance.

Taking into account the Blue Economic Development aspiration of the nation, mandates to achieve Sustainable Development Goal (SDG)-14 targets as stipulated by the United Nations' SDGs and fulfilling other international obligations on one hand, and relatively small area and finite fisheries biomass on the other, striking a balance between fisheries resource economy and long-term marine fisheries sustainability will require carefully crafted fisheries policies, strategies and plans.

Research surveys in recent years by RV Meen Shandhani and commercial fish catch data collected over past years indicate that all of the commercially important marine fishes in Bangladesh have been overexploited for a long time and are currently depleted to varying degrees. None of the economically significant marine stocks appears to be capable of recovery under the current fishery regime. It is very likely that the already bad overfishing situation could turn worse in a matter of a few years' time unless effective and restrictive fisheries management is enforced now.

Total annual marine fish catches in last five years from Bangladesh waters are reported to be in the range of 626-671 thousand MT. The majority (~83% recently) comes from the large number of artisanal vessels predominantly operating in shallow waters (<40 m). The catch of 220 active industrial trawlers (2019-2020), which are allowed to operate in waters more than 40m depth, makes up the remainder. Although the industrial sector currently takes less than 20% of the total catch, their share is growing and is likely to increase in the near future. Attempts to prevent industrial fleet growth have had limited success and the fleet is currently upgrading with larger trawls and improved fish-finding capability. A very new development (since 2016) is the large and growing quantity of Hilsa being taken at sea by the industrial trawlers. This threatens to undermine the successful rebuilding of the Hilsa stock under the Hilsa Fisheries Management Plan (HFMP), and all the co-management efforts supporting it, developed for the artisanal and riverine fisheries.

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Key principles of the FMP

The following key principles were recognised and promoted in the development and establishment of the FMP. These principles lead to effective fisheries management plans with high compliance and which are reflective of, and adaptable to, the uncertainties that prevail in fisheries.

- Good governance that facilitates setting of rules and regulations and adequate resources and arrangements for compliance and enforcement;
- Fish stocks and communities are finite and biological production constrains the potential yield from a fishery-potential yield needs to be estimated.
- Biological production of a stock is a function of the size of the stock and it is also a function of the ecological environment. It is influenced by natural or human-induced changes in the environment. Management functions need to set target reference point through data collection and fisheries assessment and environmental impacts need to be monitored.
- A sense of ownership and a long-term stake in the resource for those (individuals, communities or groups) with access are most conducive to maintaining responsible fisheries. A system of effective and appropriate access rights must be established and enforced.
- Cooperation and coordination across different government agencies for oversight and to combat illegal activities in marine fisheries.
- Adaptive management that embraces change through learning and adapting;
- Precautionary approach that does not delay action because of lack of information and manages cautiously when uncertainty exists;
- Reorient sector performance towards "Volume to Value" reducing pressure on fishing;
- Effective participation in the management process by fully-informed users is consistent with the democratic principle, facilitates identification of acceptable management systems and encourages compliance with laws and regulations through communication.

It is stressed that the plan is a "living document" and will be annually updated to guide management of the fishery and should be responsive to fisheries management policy adjustments. It is proposed to be applied for an initial period not exceeding two years from implementation, at which time it will be evaluated and appropriate adjustments made.

Scope

This plan outlines the current rules, regulations and management measures governing the industrial trawl fishery. It is designed to be used by all stakeholders to inform on what, how and why management is being undertaken in relation to this fishery.

National Context

The marine fisheries of Bangladesh are made up of the industrial sector of 257 large trawlers, and the artisanal sector of over 60,000 smaller vessels, of which at least half are mechanised to some degree. These two major marine sectors are managed separately however fisheries management recognises that they share many of the same resources and are not independent.

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The Government of Bangladesh (GoB), in recognition that marine fisheries resources are a vital element in achieving SDG-14 (life below water) targets and for harnessing the potential from blue growth initiatives, has given major focus to sustainably managing and conserving marine fisheries resources.

This FMP applies to all marine capture fisheries conducted by the country's industrial fishing trawlers. This fishery is limited to the area beyond the 40 m depth contour out to the boundary of the EEZ, and may in future include fisheries conducted in Area beyond National Jurisdiction (ABNJ) waters. The FMP covers the full range of all target pelagic, demersal and shrimp species, along with non-target and dependent species (endangered and threatened) fished by industrial trawlers.

Implementation of the FMP

Although this FMP covers the fishing years 2021-2022 to 2024-2025 inclusive it may be reviewed annually, based on best scientific information available and on the performance of the fishery achieving stipulated targets against indicators and benchmarks set in the plan. The plan will be amended as required, based on the annual reviews. Department of Fisheries (DoF) and other concerned agencies will implement the measures specified in the plan and, where required, develop the required rules and regulations in support of these measures. Annual review, and consequent amendments will be presented to stakeholders through the consultative process and the plan revised accordingly.

Description of the fishery

Marine fisheries resources

There are four major fishing grounds identified in the marine water of Bangladesh comprised a total area of 14,600 sq. km. (Figure 1). Species composition on the different grounds varies somewhat (Table 1).

Table 1 Major species composition from marine fishing grounds (Hussain, 1982) Locations are as given in Figure 1

Name	Location	Major commercial species
South Patches	90°10' - 90°50'E 21°10' - 21°40'N	Indian salmon, Hilsa, Pomfret, Ribbon fish, Bombay duck, Eel, Croaker, Catfish
South of South Patches	90°30' - 90°40'E 20°45' - 21°10'N	Pomfret, Red snapper, Croaker, Carangids, Grunter, Ribbon fish, Shrimp, Mackerel, Tuna
Middle Ground	90°00' - 90°40'E 21°00' - 21°25'N	Hilsa, Snapper, Grouper, Croaker, Shrimp, Arius
Swatch of No Ground	89°00' - 89°50'E 21°00' - 21°40'N	Hilsa, Pomfret, Ribbon fish, Bombay duck, Croaker, Shrimp, Tuna

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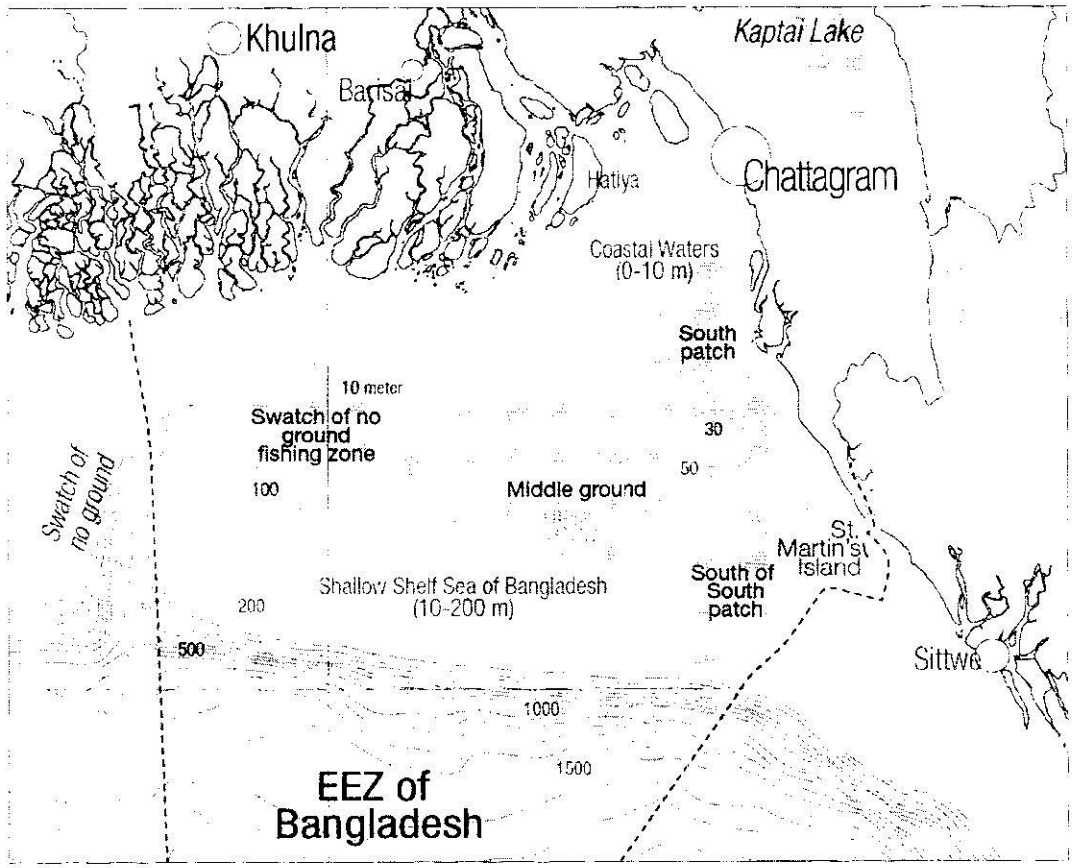

Figure 1 Named fishing grounds on the Bangladesh continental shelf.

The industrial sector, limited to operating in waters greater than 40 m in depth, and operate primarily in less than 100 m depth. There, main resource stocks can be classified into shrimp groups, groundfish groups, and small pelagics. Nominally, shrimp trawlers target shrimp, bottom trawlers target groundfish, and midwater trawlers target small pelagics. However, when bycatch is considered, there is very significant overlap in the species composition of all three fleet sectors.

Scientific advice

Recent stock assessment analyses have provided guidance on the state of the marine fisheries resources however, these analyses are known to be uncertain and specific quantitative estimates are not provided. They do provide strong and consistent indications that the marine fisheries are all generally overfished and the present trend of increasing total landings is reducing economic value overall and is unsustainable in the long-term. This advice is formulated under the new consensus view that what has sustained fisheries is less prescriptive, but more process oriented and adaptive.

The analyses indicated mixed trends for different finfish groups, with increased catches of small pelagics, especially sardines, offsetting to some degree the depletion and overfishing of larger sized and more valued species groups. Mortality estimates for sardines suggest the group is being overexploited and is somewhat depleted. The increase in catches of shrimp by the midwater trawlers reveal they are being operated on bottom, negating the potential selectivity benefits of that gear type. The overall shrimp biomass trend has been consistently downward over the last 30 years. More detailed information on species mix in the industrial shrimp

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catches since 2005 show the catch rates for tiger shrimp (most valuable) and brown shrimp are declining steadily.

The overall observation from the most recent stock assessment work was that marine fisheries resources are heavily exploited with some species severely depleted and in urgent need of rebuilding. The most heavily overexploited species groups include many of the larger and more valuable species such as Indian salmon and large croakers. The results for Indian salmon (*Leptomelanosoma indicum*), the most valuable finfish species in Bangladesh, showed it was severely depleted and overfishing was ongoing. Species in this condition are at significant risk of commercial extinction and may in fact be extirpated without specific management protection.

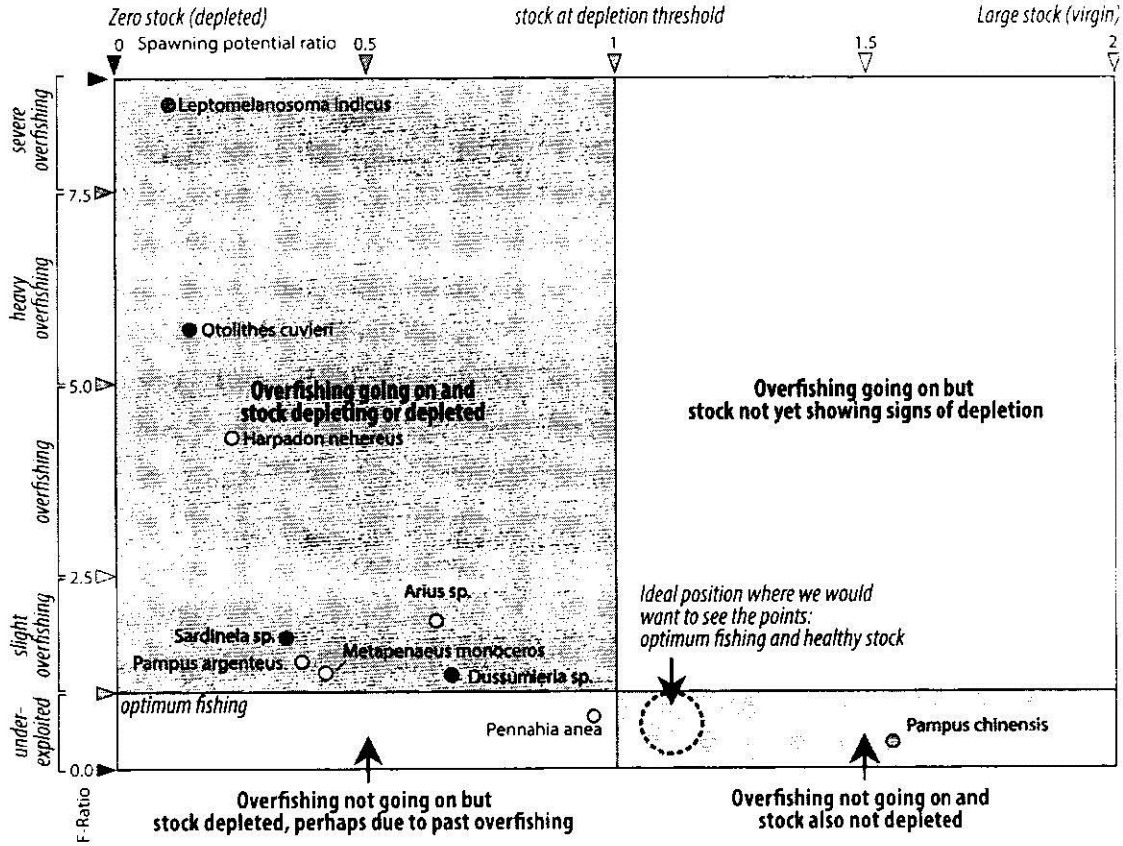

Figure 2 Phase plot ('Kobe plot') summarising the status in 2019 of selected fish and shrimp stocks indicating that almost all stocks are depleted, some severely, and almost all stocks continue to experience ongoing over-fishing.

In the management considerations stemming from the stock assessment work it was clearly noted that the present management practice is permitting excessive and increasing fishing effort and recommends that measures to stop fleet growth and to responsibly begin reducing industrial fleet capacity are urgently required. Even with strong management intervention it is going to require some years of consistent and effective control to start seeing the resulting benefits.

Ecosystem considerations

The increasing catches over the last two decades for the marine fisheries, and particularly the industrial sector, have actually seen substantial declines in catches of high valued and large demersal species such as jewfishes, grunters, snappers, pomfrets, and catfishes against increasing catches for less valuable small species such as sardines, bombay duck, and

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threadfins. This pattern of serial depletion of high-value and slow-growing species has been described in many overfished ecosystems and is referred to as fishing down the food web (or food chain). As far back as 2008 this had been noted in Bangladesh fisheries (Huntington et al, 2008; reproduced in Figure 3)

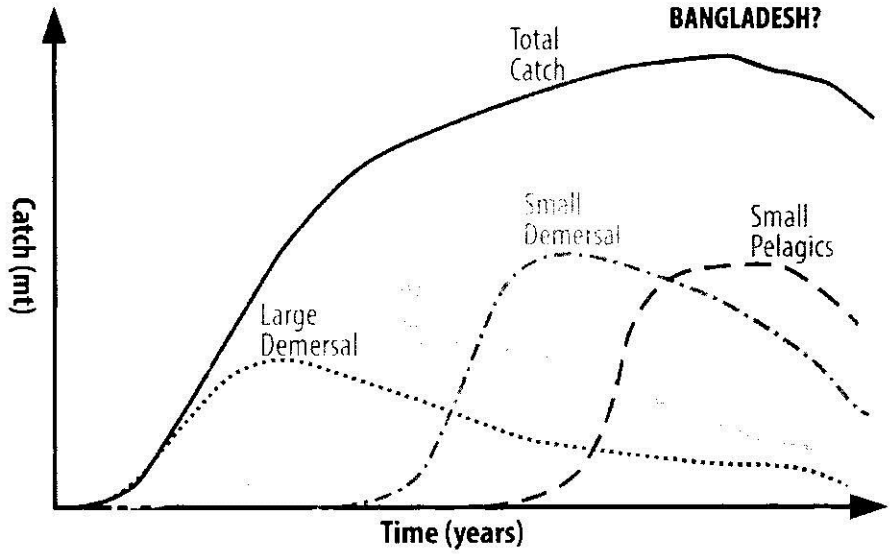

Figure 3 Status of Bangladesh marine fisheries in terms of food web dynamics indicates significant ecosystem change through "fishing down the food chain" (Huntington, 2008).

Industrial fishing fleet

The industrial fishing fleet consists of steel-hulled freezer trawlers and wooden trawlers using ice for preservation, using shrimp, bottom, and midwater trawls (Table 2, Table 3). Since 2014 issue of new license for bottom trawling has been banned by ministerial order and existing bottom trawlers were converted to mid-water trawlers for fishing pelagic species.

Table 2 Numbers of Bangladesh industrial trawlers by gear type

Trawler Type	Active	Inactive	Total
Shrimp trawler	30	7	37
Fish trawler (demersal)	46	13	59
Fish trawler (mid-water)	122	0	122
Other (demersal)	22	17	39
Total	220	37	257

Source: MFO, 2021

Table 3 Construction characteristics of Bangladesh industrial trawlers

Construction	Preservation	Gross tonnage	Length Overall (M)	Horsepower	Max. trip length
Wooden	Ice	56 – 148	18.5 – 26.5	420 – 600	14 days
Steel	Freezer	251 – 668	34 - 54	716 - 1850	30 days

Almost all the trawlers are equipped with modern navigation, communication, and fish finding equipment including sonar, trawl monitors, and echo-sounders.

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Production trends

The industrial marine sector accounts for less than 20% of the marine fisheries production and about 3% of national fish production (Table 4). The proportion of marine production by the industrial sector has been increasing since at least 2010 (Table 5).

Table 4 Reported national and marine fisheries production in Bangladesh in 2019-20.

Fisheries Sector	Production (MT)	Percent of total production	Percent of marine production
Inland fisheries total (capture & culture)	3,832,267	85.1%	
Industrial marine fisheries	115354	2.56%	17.19%
Artisanal marine fisheries	555,750	12.34%	82.81%
Marine fisheries total	671,104	14.90%	
National total	4,503,371		

Source: *Yearbook of Fisheries Statistics of Bangladesh*, DoF, 2020

Table 5 Marine fisheries production (MT) historical summary and recent trends in Bangladesh

Time frame	1983-84	1993-94	2003-04	2013-14	2015-16	2017-18	2018-19
Industrial	14,500	12,454	32,606	76,885	105,348	120,087	107,236
Artisanal	150,382	240,590	422,601	518,500	521,180	534,600	552,675
Total	164,882	253,044	455,207	595,385	626,528	654,687	659,911

Source: *Yearbook of Fisheries Statistics of Bangladesh*. DoF. 2020

Although the gross production (absolute tonnage landed) of marine capture fisheries continues to increase as a result of a decades long expansion of the fishing fleet, the catch rates (catch per unit effort, CPUE) have not.

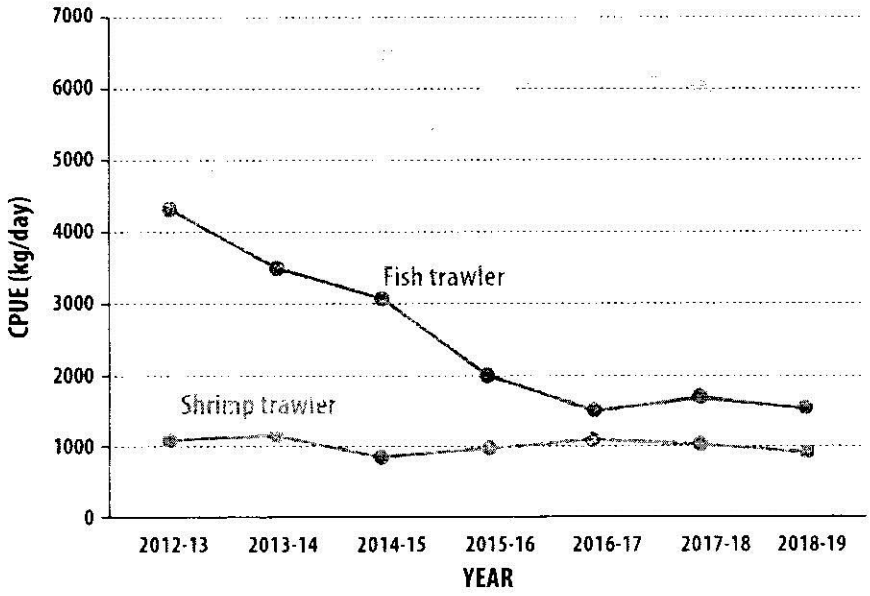

Figure 4 Industrial trawler catch rates (CPUE kg/day) for the three trawler types.

The species composition of the trawler catch (Table 6) is mostly unidentified with over 52,000 MT (out of 92,203 MT) being classified as "Other Marine Fish" a category that is generally made up of low valued, small species. This group and sardines, another small low-valued species, make up over ¾ of the total industrial catch.

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Table 6 Species group breakdown of recent industrial trawl catches as reported in Yearbook of Fisheries Statistics of Bangladesh (2020).

Type of Fishing	No. of active Trawler	No. of Unit (Trawl Net)	Catch in 2019-20 (MT)			
			Shrimp	Hilsa	Other Fish	Total
Shrimp Trawler	30	90	1,457	0	2,749	4,206
Fish Trawler	190	570	979	9,616	100,553	111,148
Total	220	660	2,436	9,616	103,302	115,354

Species group breakdown of other fish category (MT)								
Sardine	Bombay Duck	Indian Salmon	Pomfret	Jewfish	Catfish	Sharks Skates Rays	Other Marine Fish	Total
16,154	6,494	0	1,205	6,271	5,223	602	67,353	103,302

Current management measures and arrangements

Licensing

A valid fishing license, issued by the Marine Fisheries Office (MFO), is required for industrial marine fishing vessels. Licenses are renewed biannually and require possession of vessel registration and valid inspection certificates from Mercantile Marine Office (MMO).

Government has the authority to regulate number of fishing vessel license, as provided for in Marine Fisheries Act 2020 section 4 below. The intention is to reduce over-capacity while encouraging modernisation of the industrial trawler fleet.

"Section 4 – Determination of Classes and Numbers of Fishing Vessels: - In order to maintain conservation, management, sustainable and extractable stock of fisheries resources and in need of development planning Government, by notification in the Government Gazette, for providing license in the marine area of fish extraction or in the deep sea, from time to time, may determine the number and classification of the vessels."

Enforcement agencies

Enforcement of fisheries management measures by the GoB includes the DoF, Bangladesh Coast Guard (BCG) and Bangladesh Navy (BN). However implementation and compliance is very weak. There is no effective co-management mechanism or process resulting in a very top-down approach and limited legitimacy in the eyes of fishers. The existing industrial and artisanal fisheries associations are a potential institutional base for a future co-management system.

Rules and regulations

The management measures in effect for industrial fisheries under the *Marine Fisheries Act 2020* and *Rules* are:

- Licensing
  - All industrial trawlers are required to have an industrial fishing vessel license which is to be renewed biannually

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- All industrial trawlers and mechanized fishing boats are required to have vessel registration and sea worthiness certificate (Certificate of Inspection) from MMO before applying for a fishing license or biannual renewal.

- Area of operations
  - All industrial vessels must carry and operate Automatic Identification System (AIS) throughout entire fishing trips
  - From the start of the 2021-22 fishing season or when the legal provisions and infrastructure is ready, whichever is earlier, vessels must carry and operate Vessel Monitoring System (VMS) throughout entire fishing trips
  - Vessels fishing under an industrial fishing vessel license are required to fish beyond (seaward of) the inshore limit line defined by the coordinates given below

Point	E Long (DMS)	N Lat (DMS)	E Long (DD)	N Lat (DD)
1	89°13'30"	21°11'00"	89.225°	21.183°
2	89°32'00"	21°25'00"	89.533°	21.417°
3	89°40'00"	21°25'00"	89.667°	21.417°
4	89°40'00"	21°18'00"	89.667°	21.300°
5	90°30'00"	21°06'00"	90.500°	21.100°
6	91°16'30"	21°00'00"	91.275°	21.000°
7	91°32'00"	21°06'00"	91.533°	21.100°
8	91°45'00"	21°06'00"	91.750°	21.100°
9	92°09'00"	20°25'30"	92.150°	20.425°

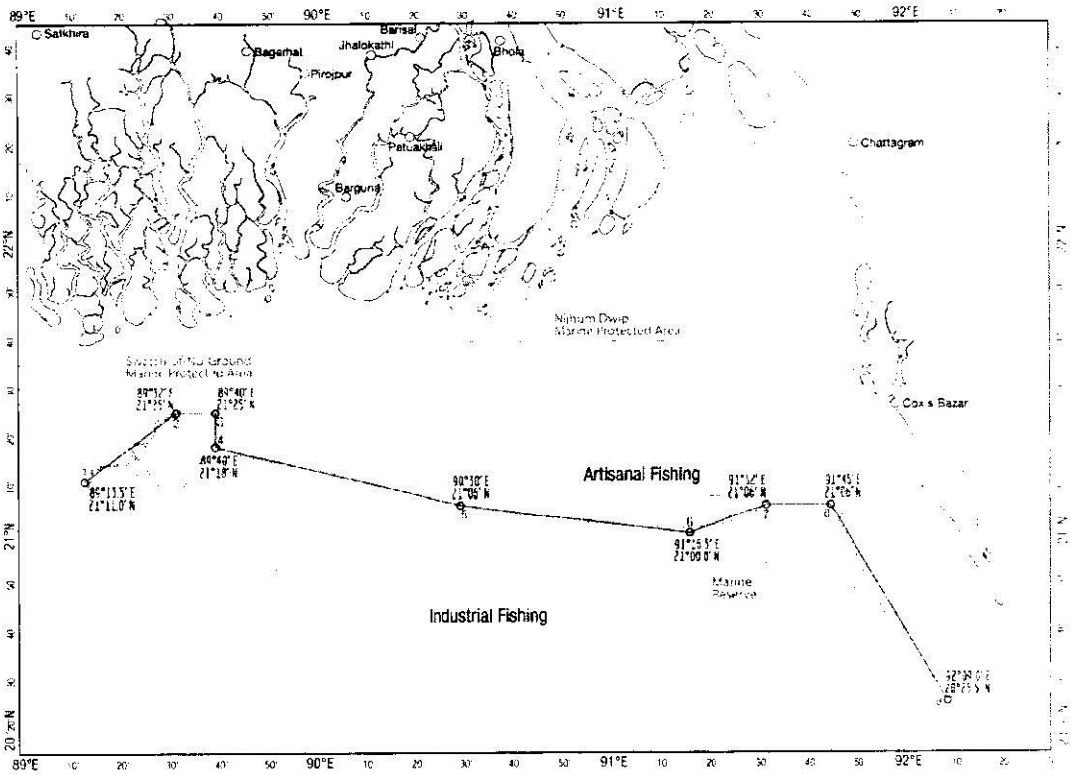

Figure 5 Spatial restrictions for industrial trawling

- GoB has declared a continental shelf Marine Protected Area (Marine Reserve) between Middle Ground and South Patches encompassing 698 sq. km. (204 sq. nm.) to protect spawning nursery habitat for marine shrimp and fish.

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- GoB has declared 3188 sq. km. of Marine Protected Area south of Nijhum Dwip to conserve marine and coastal fisheries resources.
- GoB has restricted collection of fry of fish, or PL of shrimp and prawns of any kind in the estuary and coastal waters of Bangladesh since 2000.
- GoB encourages industrial fishing fleet to conduct exploratory and/or developmental fishing outside 500 m isobaths within EEZ.

- Closed season
  - Fishing by all types of fishing vessels is banned from 20 May to 23 July each year to promote the conservation of marine fisheries resources within the EEZ of Bangladesh.
- Trip duration
  - Freezer trawlers are permitted a maximum trip duration of 30 days
  - Non-freezer trawlers are permitted a maximum trip duration of 14 days
- Sailing permission and Arrival report
  - All licensed fishing vessels shall have sailing permission
  - At the end of fishing all fishing vessels shall report 24 hours prior to arrive at port
  - After receiving arrival report, entitled officer shall inspect amount and type of harvested fish
- By-catch
  - Shrimp trawlers must land, not discard, finfish
  - Shrimp trawlers must have at least 30% fin-fish in the total catch
  - Control of mesh size:
    - cod-end of shrimp trawl nets must be 45 mm or larger;
    - cod-end of fin-fish trawler net must be 60 mm or larger;
  - Shrimp trawlers must use Turtle Excluder Device (TEDs)
  - All trawlers shall use specified Bycatch Reduction Devices (BRDs), including TEDs when available.

Hilsa Fisheries Management Plans

Hilsa is both economically and culturally important in Bangladesh and supports a vital and closely managed freshwater fishery.

The HFMP has been in effect since 2003 resulting in successful conservation of Hilsa while allowing a 100% increase in production over the last 16 years and supporting the livelihoods of around 0.5 million fishers. The main element of the strategy is spatial protection of four critical spawning grounds and five Hilsa and juvenile Hilsa or 'jatka' sanctuary areas/nursery grounds through seasonal fishing bans (Table 7). A compensation package to affected fishers under a GoB safety net arrangement encourages high compliance.

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Table 7 Fishing ban areas and periods specified under the Hilsa Fisheries Management Plan

Ban Area	Locality	Ban period
North East	Mayani Point, Mirsarai, Chittagong in the northeast (91°32.15' E and 22°42.59' N)	4 days before and 17 days after the full moon including the day of full moon, that is, total 22 days of the first full moon in the Bengali month of Ashwin each year
North West	Paschim Syed Awlia Point, Tajmuddin, Bhola in the northwest (90°40.58' E and 22°31.16' N)	
South East	North Kutubdia Point, Kutubdia, Cox's Bazar in the southeast (90°52.51' E and 21°55.19' N)	
South West	Lata Chapali Point, Kalapara, Patuakhali in the southeast (90°12.59' E and 21°47.56' N)	

The successful implementation of the HFMP demonstrates the feasibility and effectiveness of this fisheries management plan, underpinned by scientific information, in establishing appropriate catch and/or effort limitations, preventing overfishing, and rebuilding the Hilsa stock. It is clear that an unregulated expansion of Hilsa fishing in marine waters is underway leading to the growing marine catch of Hilsa, particularly by midwater trawlers.

To ensure the continued successful management of this stock, based on the existing HFMP, it is critical that targeted industrial trawling for Hilsa is to be eliminated and measures must be included to ensure Hilsa bycatch is kept to the minimum possible level in the industrial sector (Table 8).

Table 8 Management measures to limit Hilsa catch in Industrial fisheries

Measure	Notes
BRD	Midwater trawlers shall use trawl BRD when available, sized to exclude Hilsa, in addition to TED
"Move-on" rule	When Hilsa catch exceeds 5% of the catch in a tow by weight, the vessel must relocate to avoid the area
Fishing closures	Time and area closures may be introduced when specific areas are affected by high bycatches of Hilsa.
Bycatch limit	Hilsa landings are limited to a maximum bycatch of 10%* by weight of total catch, for all industrial trawlers.

*Bycatch limit will be executed after development of specific BRDs for Hilsa

Monitoring, control and surveillance

Overview of fisheries MCS

The ultimate goal of fisheries management is to maximize the sustainable benefits and economic return from the country's territorial waters and exclusive economic zone. The success of a FMP depends on it being based on adequate information and sound decision-making, and being implemented through a strong and cost-effective Monitoring, Control and Surveillance (MCS) system. Such a system is an integrated information collation, rule-making and enforcement system providing tools for implementation of policies, strategies and frameworks for fisheries management and other aspects of ocean and environmental governance. MCS is critical for the implementation of a successful fisheries management strategy and plan that renders a fisheries management regime effective and sustainable.

Implementation of MCS

Bangladesh currently has the following MCS processes:

- Industrial vessels must land catch at designated ports in the presence of MFO officials authorized to perform inspections and verifying paper based daily fish log with landed catch;

- Industrial vessels must use only fishing gears meeting the regulated specifications
- Industrial vessels require sailing permission (SP) from MFO before departing for fishing after submitting
    - proof of valid license
    - stipulated fee
    - catch log sheet of previous trip
- Vessels are inspected regularly or randomly by authorized personnel of MFO of DoF before and after trip at port or as shore based inspection at Marine Fisheries Surveillance Check posts (MFSCs).
- At-sea monitoring of industrial fishing vessels is carried out by patrolling vessels of BN and BCG.
    - Patrolling vessels may carry DoF Officers as observers or in joint operations
    - BCG conducts patrols including MCS actions within the 40 m depth contour
    - BN conducts patrols including MCS actions in offshore EEZ waters (seaward of 40 m depth contour)
- IUU catch certification for traceability issued by MFO for compliance with EU requirements.

New management measures and MCS activities

Many of the above measures and regulations are not implemented effectively or comprehensively, primarily due to limited human and logistical resources within MFO. During the span of this plan it is intended to implement a number of new capabilities and activities.

- Establish a Joint Monitoring Centre (JMC) in the Chattogram port area interagency coordination in MCS under Standard Operating Procedures (SOP) for implementation of the Marine Fisheries Act and rules in the EEZ of Bangladesh.
- Establish operational electronic fishing vessel licensing system including IT infrastructure, training, capacity building & reporting. Data of all registered fishing vessels incorporated in the electronic system.
- Establish infrastructure for data collection by at-sea observers with required mobile application, virtual server, database, and back-end data management software, with user manuals and training, to support monitoring fisheries activities and reporting to competent authority.
- Establish new MFSC at strategic locations in coastal districts, including facilities for high speed patrol vessels to conduct joint monitoring and surveillance program with maritime cooperating agencies.
- Establish a new VMS through a VMS provider and require VMS installation as a condition of license for all industrial fishing vessels. VMS will support recording and displaying vessel position and track data, pattern of fishing activities, use of legitimate gear, catch transhipment at sea, and e-log fish catch report. VMS will integrate with AIS and establish connection with JMC for strengthening MCS activities through communication & coordination with participating marine domains for inspection and enforcement. But the legal regime requires provision by vessel owners for installing VMS transponder and borne airtime fees for satellite for sustainability question.
- Establish an electronic catch documentation scheme through e-reporting of catch and e-logbooks to increase transparency of fish moving through the supply chain.

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