The Marine Fisheries Act 2020: An Appraisal

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Abstract

Fisheries are absolutely an important source of income for Bangladesh. Sea Fishing Sector gives a huge revenue income to Bangladesh from the domestic and international markets. To regulate the Sea Fishing sector Bangladesh has passed Marine Fisheries Act, 2020 by repealing the previous Marine Fisheries Ordinance 1983. The aims of the new enactment is to exploited and preserve the marine fishing resources for greater national interest and also keep pace with the UNCLOS standard. The Act has already shown that it has some limits which is discovered through the analysis throughout this paper. The Challenges Bangladesh is facing with the fishing sector and how much the Act can help with the challenges & its' flaws in proper maintenance are discussed here. Also, whether an amendment is needed or not can be found here. Moreover, the price-hike of the fishing vessels Deep sea and their shortcomings, and the struggles of fishermen are identified. The answer of the question of why Bangladesh has not sent any ships to the Deep sea zone yet has also been mentioned here. Also, what measures to be taken for this are examined and analyzed. The paper has tried to give recommendations where it is needed from the legal and administrative perspective to enhance the business and economic prospects. Overall, the purpose of this paper is to evaluate the possibilities, prospects, and Drawbacks of Deep sea Fishing- underlined under this Act.

Keywords: Deep-Sea, Deep-Sea Fishing, Fishing Spot, Marine Fisheries, Marine Fisheries Act, Marine Fisheries Industry, Prospect, Bangladesh

1. Introduction

Over 60% of our planet is covered by water more than a mile deep. The deep sea is the largest habitat on earth and is largely unexplored. (Yancey 2022) A large part of the world's economy survives based on the sea and the sea-dependent economy. The importance of deep-sea fishing and the proper use of marine resources is immense. The

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deep sea or deep layer is the lowest layer in the ocean, existing below the thermocline and above the seabed, at a depth of 1,000 fathoms (1,800 m; 6,000 ft; 1.1 mi) or more. Little or no light penetrates this part of the ocean and most of the organisms that live there rely for subsistence on falling organic matter produced in the photic zone. (Mizan 2022) For this reason, scientists once assumed that life would be sparse in the deep ocean, but virtually every probe has revealed that, on the contrary, life is abundant in the deep ocean. (Ezez 2006) Deep Sea refers to 90 to 100 feet of the ocean or 30 meters deep in the ocean and fishing at that depth is called deep sea fishing globally.

The ocean is a reservoir of resources. A variety of treasures are hidden in the sea. Sea fish is a part of it. Extracting fish from the deep sea will meet the demand for meat of mankind on the one hand and play a leading role in the world economy on the other. There is no alternative to marine fisheries and sustainable marketing to drive our blue economy. Now if we think of Bangladesh in terms of marine fishing, it is very frustrating and pathetic. The total sea area of Bangladesh in accordance with the UNCLOS- iii is approximately 2,07,000 square kilometers, 1.4 times greater than its total land area. (Syed and Belal, n.d.; Bappy et all, 2021) Although Bangladesh has conquered the sea, it is still not able to use its resources properly and enjoy the benefits.

The International Seabed Authority (ISA) has a double mission to control the mineral-related operations for the seabed which is considered as the common heritage of all people and to protect the ecosystem of the sea bed, ocean floor, and subsoil beyond the nation's jurisdiction. It also protects the biological diversity of the ocean by protecting marine life (Ezez 2002). All over the world, there are many laws related to the deep sea, some of the notable laws are the Deep-Sea Mining Act, 2014 (United Kingdom), the Deep Sea Fishing Authority Act, 1998, the Deep Sea Fisheries Management and Development Act, 2020 (United Republic of Tanzania), etc. Bangladesh also has several laws regarding the deep sea, they are The Marine Fisheries Rules,1983, The Protection and Conservation of Fish rules, 1985, The Territorial water and Maritime zones rules, 1977, The Fish and Fish Products (Inspection and Quality Control) Ordinance, 1983 and The Marine Fisheries Act, 2020. The Marine Fisheries Act, 2020 was enacted with the objective of moving the country forward in the blue economy with the utmost utilization of the resources of the blue economy in the proper ways.

In the paper, we analyzed the prospect of deep sea fishing in Bangladesh, and find out the drawbacks of the Marine Fisheries Act, 2020, and other related acts which hinder the prospects. Based on the analysis we have provided recommendations to amend the act to enhance the usability of the prospects to ensure in Marine Fisheries Industry

2. Prospect of Deep Sea Fishing in Bangladesh

Among fish production industry, Bangladesh stands at the 3rd position worldwide. (Shamsuzzaman et all, 2020) In this journey of growth, only 20% of total fish production harvested from the 475 marine species in 118,813 square vast Bangladesh's Bay of Bengal Region and Deep Sea. (Rokanuzzaman and Chowdhury, 2018; Ullah, 2020) The contribution to the total 20% harvested marine species from Deep sea is near to none due to the Infringement of law, Absence of Modern Technology, Competition in the international fish market, lack of deep sea fishing trawlers, Insufficient investment, and illegal fishing by the other states. (Rahman 2021)

Only 255 registered ships can enter into the marine fishing zone from 2020 as sections 4, 21, and 22 of the new Marine Fisheries Act 2020 will only allow the Bangladeshi registered and artisanship to enter into fishing in the Bay of Bengal from Bangladesh side. (Ullah, 2020)

As Exclusive Economic Zone (EEZ) of the Bay of Bengal and the deep sea has multiple fishing spots (See figure 2) and the demand for marine fish domestically and internationally is increasing day by day for human consumption and also, enterprise usage as a raw material. Above all, the fish food, fish meal, fish oil, and pharmaceuticals industries are offering large sums of money at an inclining rate. (Das 2017)

There is so much scope and less saturation for entering into the Marine Fisheries market as the potential market for marine fisheries products is at 438.59 billion at a growth rate of 6.88% worldwide. (Research and market, 2019) However, the analysis has found out 4 factors- Fish Varieties, Fishing spots, and Competition, Demand/ Business Fields, Revenue, and Profitability- that work as a regulator of this industry and can be identified as a blooming prospect. The shift in any one of them can change the whole marine fishing industry from a commercial standpoint.

2.1 Fish Varieties

Bangladesh's sea territory holds 475 species of marine fish. Moreover, 50 species of cartilaginous fish, 35 species of shrimp, 3 species of lobster, 30 species of crabs, 13 coral fish, 301 species of Mollusca like oysters and snails, and various types of seaweed present in the entire Bay of Bengal. (Rokanuzzaman and Chowdhury, 2018; Ullah, 2020)

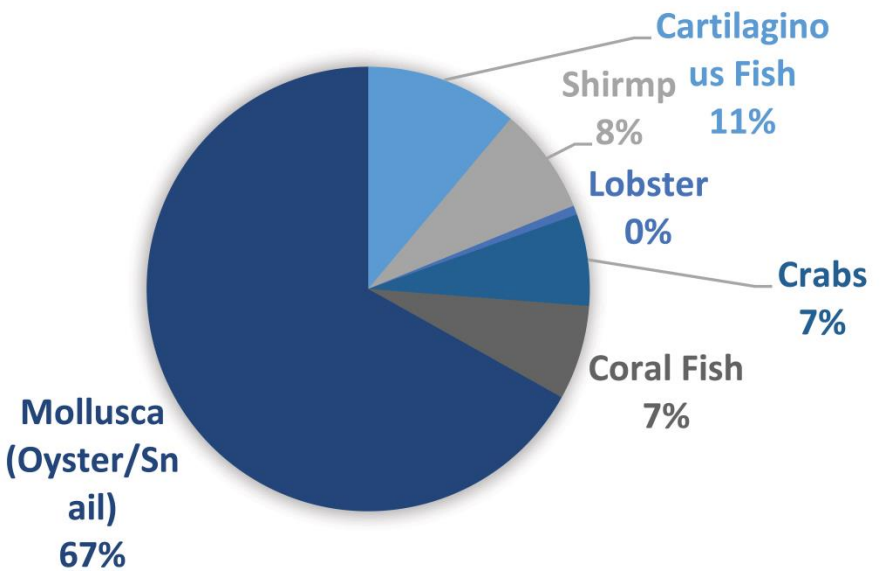
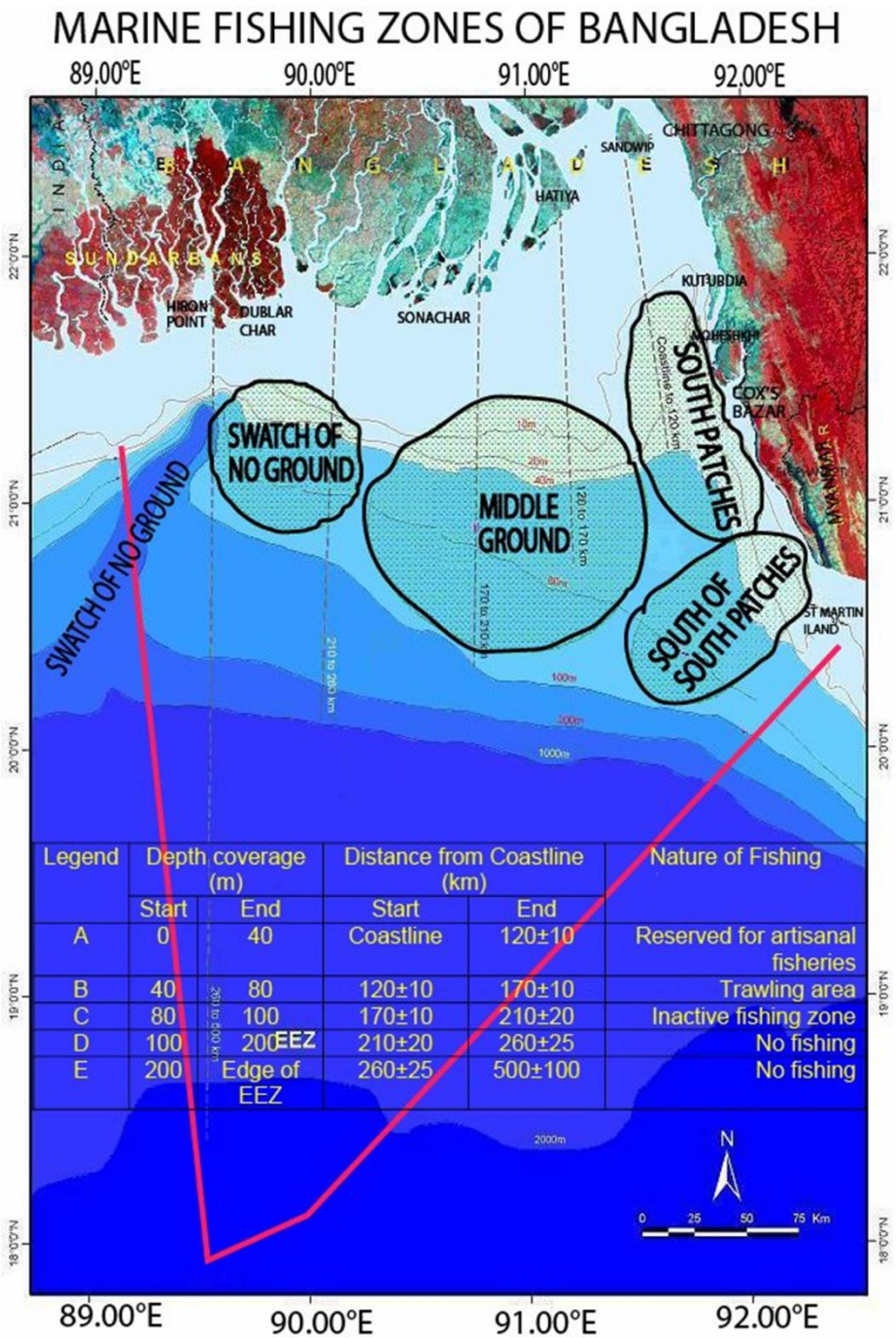


Figure 1: Fish Verities in the Bay of Bengal (Developed by Author)

Among vast species, 90 species have commercial importance. 40% of trade take place in only one fish- Hilsa Fish. Rest 60% get covered by species like Bombay Duck, Cat Fish, Pomfrets, Sharks and Skates and Rays, Jewfish, Giant sea Bass and Certain high-valued species, such as pelagic tuna (Scombridae), swordfish (Xiphidae), and lakkha/threadfin (Polynemidae) and etc. (Haque 2020; Rokanuzzaman and Chowdhury, 2018)

2.2 Vast Fishing Spots and Less Competition

In the Bangladesh occupied Bay of Bengal, four fishing spot- Swatch of No Ground, Middle Ground, South Patches, and South of South Patches- can be recognized where the average ship occupancy is 250-300 including artisan and registered ship. An average trawler of 500-900 BHP engine power can sail for 30 days in these fishing spot and get 5-6 haul of 3-4 hour a day. (Uddin et all, 1998). Not all trawler, get engaged into fishing every day however, 31-48 trawlers get engaged in fishing every day. (Uddin et all, 1998) Moreover, the deep sea holds enormous fishing spots beyond these four, and luckily, Bangladesh's EEZ occupies the most prominent fishing spots where the nearest fishing spot- South Patches, and swatch of no ground- is only 120 km away from the coastline. However, the south of south patches is 260 Km away where is no active fishing in execution due to back-dated trawlers can't reach the area. (See Figure 2) So, the competition in the fishing spot of the Bay of Bengal has very little competition. So, if the new and big trawler can be introduced then fish production can be increased dramatically.



Legend	Depth coverage (m)		Distance from Coastline (km)		Nature of Fishing
	Start	End	Start	End	
A	0	40	Coastline	120±10	Reserved for artisanal fisheries
B	40	80	120±10	170±10	Trawling area
C	80	100	170±10	210±20	Inactive fishing zone
D	100	200	210±20	260±25	No fishing
E	200	Edge of EEZ	260±25	500±100	No fishing

Figure 2: Fishing Spots in Bay of Bengal. (Karim, Hasan and Barua. 1998)

2.3 Business Fields

The presence of vast fishing stocks in fishing spots of Bay of Bengal and low competition among the trawlers from 2.2 has proven that there is a scope of scalability and supply of the material if the updated trawlers and fishing systems can be introduced. However, a business needs demands for its products to stay in the business. The Marine fisheries industry has these demands to be fulfilled from three major sources.

Firstly, the protein source and project related to self-sufficiency in food creates demands for most captured marine fish Hilsha- 40% of total marine fisheries captured- and other addable fishes to the human diet. (Haque 2020)

Secondly, Animal meals also got created from the various marine fishes and the demand of the industry increasing day by day as the country's economy is growing as well as the Agro firms.

Thirdly, Shark and shark liver and similar species which are full of vitamin A work as the raw material for the pharmaceutical industry, and with the rise of the pharmaceutical industry at astonishing 14.6% growth rate (See figure 3), this demand will only rise in the upcoming decade. (Das 2017)

Demand is a part of the general growth of business activity. (Clark 1917) As Marine fisheries has already an existing demand in Bangladesh, the business fields will expand in the coming times.

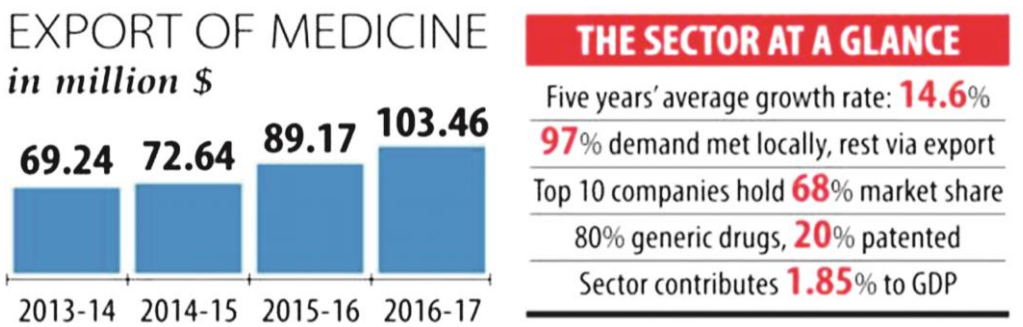


Figure 3: Rise of Pharmaceutical Industry in Bangladesh (Chakma, 2018)

2.4 Revenue and Profitability

Cashflow through revenue and profitability keeps a business running and makes it future-proof, and losses and low cash flow lead an enterprise towards bankruptcy. The trawler's operational cost includes fixed cost and running cost (variable cost). (Effiong et al. 2016) Bangladeshi trawlers' operational cost is relatively low from other countries as the vessel and labour cost falls under the fixed cost, and these are relatively low

priced in in the Bangladeshi region. The running cost (variable cost) includes fuel, fooding etc which is relatively low costing in Bangladesh compared to others; However, gulf countries enjoys better fuel costing however, the food costing is higher there. In Bangladesh, the low food costing compensates the relatively high fuel cost. So, it ensures relatively low operational, and material costs in the Marine fisheries harvesting sector. Moreover, the market is huge but the supply is low, so, it makes the bargaining power of the marine fisheries industry high, so, the revenue and profitability margin become relatively high from the domestic sales (See Table 1) and the option of export at an international rate is always open where the international price grew by 95% in last 30 years. (Ezez, 2022)

Particulars of marketing	Major Species (Tk/Kg)										
	Hilsa	Pomfret	Cat fish	Bombay duck	Ribbon fish	Coral	Paisa	Surma	Captured shrimp	Bomb maitta	All species
Primary market											
Purchase price (PP)	524.58	610.00	208.75	106.00	129.07	410.94	97.08	246.67	180.83	126.25	264.02
Marketing cost (MC)	9.15	8.94	8.83	8.75	8.82	8.77	8.79	8.90	8.84	8.79	8.86
Sales price (SP)	587.53	683.20	233.80	118.72	144.55	460.26	108.73	276.27	202.53	141.40	295.70
Marketing margin (MM=SP-PP)	62.95	73.20	25.05	12.72	15.49	49.31	11.65	29.60	21.70	15.15	31.68
Marketing profit (MP=MM-MC)	53.80	64.26	16.22	3.97	6.67	40.54	2.86	20.70	12.86	6.36	22.82
Secondary market											
Purchase price(PP)	587.53	683.20	233.80	118.72	144.55	460.26	108.73	276.27	202.53	141.40	295.70
Marketing cost (MC)	10.22	10.04	9.97	9.96	9.92	10.00	9.90	9.95	9.97	10.00	9.99
Sales price (SP)	663.91	772.02	264.19	134.15	163.35	520.09	122.87	312.18	228.86	159.78	334.14
Marketing margin (MM=SP-PP)	76.38	88.82	30.39	15.43	18.79	59.83	14.14	35.91	26.33	18.38	38.44
Marketing profit (MP=MM-MC)	66.16	78.78	20.42	5.47	8.87	49.83	4.24	25.97	16.36	8.39	28.45
Consumer market											
Purchase price (PP)	663.91	772.02	264.19	134.15	163.35	520.09	122.87	312.18	228.86	159.78	334.14
Marketing cost (MC)	12.52	12.39	12.29	12.19	12.17	12.32	12.20	12.28	12.27	12.26	12.29
Sales price (SP)	743.58	864.66	295.90	150.25	182.95	582.50	137.61	349.64	256.33	178.96	374.24
Marketing margin (MM=SP-PP)	79.67	92.64	31.70	16.10	19.60	62.41	14.74	37.46	27.46	19.17	40.10
Marketing profit (MP=MM-MC)	67.15	80.25	19.42	3.91	7.43	50.09	2.54	25.18	15.19	6.91	27.81
Total marketing margin and profit											
Total marketing margin	219.00	254.66	87.15	44.25	53.88	171.56	40.53	102.98	75.49	52.71	110.22
Total marketing profit	187.11	223.29	56.05	13.35	22.97	140.46	9.64	71.85	44.41	21.66	79.08

Table 1: Marketing margin and profitability of different major species of marine fish in different locations (Tk./Kg.) (Rabbani et all, 2017)

3. Drawbacks of Current Acts on Deep Sea Fishing

While the Marine Fisheries Act 2020 has some shortcomings which are not defined properly, Bangladesh Marine Fisheries Association (BMFA) demanded revising Fisheries Act 2020 after holding talks with the stakeholders in December 2020. The shortcomings of the law can be defined as, it corporates directly & indirectly in both ways, the precautionary principle. The precautionary principle has been titled as an important element of fisheries agreement, which includes the UN Fish Stocks Agreement to which Bangladesh is a party & the FAO Code of Conduct for Responsible Fisheries (FAO Code) and has been argued to implement as an obligation under international customary law.

The Act and other relevant laws are not provided with Ecosystem-based Fisheries management (EBFM). Fish populations are interrelated, thus single-species management strategies that don't consider how such fishing affects other species or marine ecosystems are doomed to fail. As a result, without considering interspecies interactions or the effects of fishing on larger marine ecosystems, Bangladesh's fisheries managers will continue to manage fisheries on a target stock basis.

In addition to the above, the 2020 Act has some administrative drawbacks. The act has given so many liabilities to the Director of the Fisheries Department. The work is not properly distributed and it gets heavier over time. As there is no check and balance, the director may use arbitrary power, thus it may cause economical damage and, in the end, loss of fishing resources. Although the Director may assign duties to other officials, the potential for abuse of power still exists. Because of the short number of staff and few resources, the office may find it difficult to perform their duties. (Abdullah and Karim 2022)

3.1 Drawbacks of Current Acts on Deep Sea Fishing

Section 2(5) of the Marine Fisheries Act 2020 defines the "Deep Sea" as the international waters outside the territorial waters and the exclusive economic zone. In accordance with Section 3, if anyone violates any restriction imposed upon any species within the declared area by the government based on the depth of the sea, he may pay equal to the value of the fish caught. Moreover, section 4 says, the Government can determine the numbers & categorize classes of vessels for maintaining fisheries resources and licensing the fishing area through an official gazette. Section 8 says the director can permit a license to any commercial trawlers to catch fish on the fishing area including deep sea without prior approval of the Government.

Section 7 defines, while no one is allowed to catch fish in Deep sea areas or other fishing sights without licensing or registering ships except the artisan vessels, the foreign vessels need no license or permission to catch fish in the Deep sea area; violating this section may cost imprisonment for a term not exceeding 3 (three) years or not more than one crore Taka. Not only, the fine, however, shall be punishable not less than one-third of the fines as prescribed or both, and the fishing vessel and other equipment shall be confiscated.

Here, it shows that Bangladesh is giving chances to other countries to catch fishes when they don’t have any license. The lack of competition on Bangladesh’s side in business terms is raising the competition with other countries in economical sector. Having required no license for foreign vessels can lead to extreme fish taking over by them. There is a possibility of the Deep Sea fishing resources going to the hand of foreign

countries. Building monitoring, surveillance, and control system for the massive fleets of ancestor-owned boats fishing in the sea will be given first attention.

According to builders, each large boat costs between Tk 80 lakh and Tk 1 crore to build, while smaller one's cost between Tk 25-40 lakh. Wages for architects, forgers, and smiths are included. Other costs, such as long-lasting nets, maintenance, and residual outlays, add to the overall cost.

The act is clearly spotted with a loose point on administrating. Over 1 lakh 17 thousand 613 sq km of the Bay of Bengal, including special economic zones and the continental shelf, were gained by Bangladesh. (Bappy et all, 2021) Oceans and shallow continents make up 20 and 35 percent, respectively. The Deep sea make up the remaining 45 percent.

Deep-sea fishing development largely depends on the advancement of technology and proper finance. Since the fishing industry in the Deep Sea has not been fully stabilized in both terms, Bangladesh is still facing some enormous lacunas for further standardization. (Rokanuzzaman and Chowdhury, 2018)

3.2 Drawbacks on Mentoring

According to the Business Post, "Bangladesh Marine Fisheries Association (BMFA), said lack of surveying and available data on marine resources have been limiting the capacity of the country's Deep sea fishing sector. The President of BMFA Nurul Qayyum Khan said that there is no data on fishing capacity or risk assessment areas in the deep sea, and that is why fishing vessels do not cross the government-predefined 1,7000 sq km area or 130 meters in-depth." Even because of lack of capacity the fisheries ministry cannot go survey the Deep sea survey. (Javed, 2022)

The fishing boat fleet usually borrows Taka 5 lacs to 15 lacs from the moneylenders at a high rate of interest, costing the fishermen to pay interest of 25-30 thousand taka per lac. Thus, the situation makes the fishermen suffer due to the lack of easy loans through the Fisheries Association. (Express, 2022)

According to the Fish and Fish Products (Inspection and Quality Control) Act, 2020, allying with the Marine Fisheries Act, 2020, whoever wants to deal with the Deep sea fishing industry, the business section will be dealt with the discussed act, the cost of labor and price of fishes will be dealt with the Labour Act 2006 and Governmental Gazette or open market policy respectively.

One of the huge problems is the lack of radio frequency and mobile networks in the deep sea so the fishermen or workers don't get disaster forecasts in time. It's so common that sometimes, they have to face the death risk as trawlers can't return from

the sea after the announcement of bad weather or signal. Another major problem identified is Low Catch, especially by the Hilsha trawler fisherman in recent years causing indebtedness. Climate change causes weather bad suddenly in the sea and fewer trips contribute low catch of fish in the sea. (Ullah, 2016)

4. Conclusion

The Marine Fisheries Act 2020 Act, for the management of marine fisheries has failed to live up to expectations. Even though it has been 8 years since Bangladesh has solved territorial water issues with Myanmar and India, due to the lack of negligence of the proper administration or scope with vessels and skills, it has not been possible to catch fish in the Deep sea zone because there is no authorized vessel that can go beyond 200 meter for Deep sea fishing. According to the report of the Fishery Department of Bangladesh (published on 17 February 2020), none of the 255 fishing trawlers are capable of deep sea fishing, only capable of fishing up to a maximum 200-meter depth. (Rahman 2021)

To achieve optimal utilization without endangering the preservation of marine fisheries resources, a smart legal framework should be made. The indefinite scope in the economic condition of the country greatly relies on Marine Fisheries. To make the position at the top, the government must have a proper plan to utilize the act and amend it and monitor it with the proper prospect; focusing on closed-environment, valuing Deep sea fishing; thus, it can be regulated without the intervention of external power. The Act is notably flawed in that it does not implement modern techniques to fisheries management and does not provide an interagency cooperation structure. If Bangladesh is to take its obligations for managing its fisheries seriously, the government must commit to a thorough process of law reform, communicate with relevant parties, and genuinely engage in the creation of modern fisheries management methods under domestic fisheries legislation. The registering process should be easier and the power of the director should be divided among other officials in order to avoid any arbitrary use of power. The government is already pushing so many industries for economic growth. Thus, the Marine Fisheries industry can make a great impact on the country's economy by implying a proper business administration plan.

5. Recommendations

An act should be as much clear and specific as it can lead to a perfect executable form. Having discussed the drawbacks of the Marine Fisheries Act 2020, there can be 3 specific recommendations that should be given for taking into consideration by the parliament and the government within a short span of time, as leaving them as it is can led to a greater problem within a year loss in future when the fishing business will start to scale up.

5.1 Amending the Self-Harming Sections

The legislative body of the country should overview the Marine Fisheries Act 2020, as it has a lot of similarities with the Marine Fisheries Ordinance 1983. (Atif and Karim, 2022) So, it's needed to be modified and made up to date. Because we cannot stay with the old law as the country is changing rapidly through technological and scientific advancement. Section 7 is creating more uncharted competition among the business and also, letting foreign and unregistered artisan ships grab away Bangladesh's precious fish reserve where the Bangladesh government can't claim any tax, and the business fisheries industries are losing their raw materials. to the foreign companies at no cost. So, the gap in this section should immediately be amended to ensure the nation's prosperity.

5.2 Removing Conflicts

The new Marine Fisheries Act is not extensive. Many other acts can get into its provisions and create conflict. This in return makes the act ineffective to an extent. Therefore, the legislative body should bring the necessary changes to the parts of the act, and make it extensive. If they can't do it because of legal barriers, then at least it should mention the acts in section 3 that can compensate the act and which acts are ultra vires.

5.3 Increasing Efficiency

Administrative loopholes always make the process of execution slow. If a single person gets hold of many positions and powers then the person will be unable to check and review things effectively. In Marine Fisheries Act, the Director's workload has fallen in this scenario. (Abdullah and Karim, 2022) It should be distributed among lesser rank executives like Income Tax Ordinance 1984. In the income tax ordinance, the commissioner of tax delegates many of its tasks to the deputy commissioner of tax, even the deputy commissioner can become a receiver as well. Where, in Marine Fisheries Act 2000, directors don't have the option of delegation. If the less important work can be delegated to lesser-ranked officers, then the effectiveness of the act will be increased.

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