

## **OCEAN ECONOMY OF BANGLADESH: PROSPECTS AND CHALLENGES**

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### **ABSTRACT**

*This paper presents the features of ocean economy of Bangladesh and its present contribution to the national economy. Ocean plays a vital role to the world economy. It is one of the largest sources of various natural resources such as oil, coal, gas, copper, magnesium, nickel as well as living resources like different species of fresh fish, shrimp, crab, turtle etc. Bangladesh is situated in the bank of the Bay of Bengal and has been blessed with long oceanfront. Bangladesh has immense opportunity to enrich its economy by proper utilizing its ocean resources. It is a matter of repentance that Bangladesh is still lags behind from optimizing its marine resources. The study is based on secondary data mainly collected from different books, journals, and publications. It is found that the concept of ocean economy for Bangladesh is yet to be defined and unknown to many. The study shows that there is huge potentiality from the ocean economy if necessary steps are taken. Finally, it comes up with some recommendations to take appropriate policy for proper utilization of the potentials from the ocean.*

**Keywords:** *Ocean Economy, Marine Fishing, Coastal Tourism, Extraction.*

### **1. INTRODUCTION**

The oceans cover around 70 per cent of the Earth's surface (World Ocean Review, 2010). Bangladesh is located in the bank of Bay of Bangle. It has a long coastline of 580 kilometers. Approximately 30 million people directly or indirectly depend on the bay of Bangle, especially on marine fishing, coastal tourism and commercial transportation. The ocean economy is a new concept for Bangladesh. It comes to the limelight after the demarcation of maritime boundary by two consecutive international verdicts which solved the disputes with Myanmar and India. Bangladesh got the sovereign rights over more than 118000 square kilometers of maritime territory which is almost two third of the total land area, 200 nautical miles ( NM ) of exclusive economic zone and 354 NM of continental shelves from the Chittagong coast. The delimitation of maritime boundary with Myanmar and India has created enormous opportunities for huge investment, creation of new business, fresh employments and regional and international engagements apart from direct benefits from extraction of marine resources (Business Times, November 2014). Ocean economy will create the potentialities of extracting various types of resources and creating newer employment in the national economy of Bangladesh.

There are two main features of the ocean economy of Bangladesh. Firstly, very little is known at present about the resources found in the Bangladesh's oceans, and their exploration, especially their production pose immense technical challenges. Secondly, there is insufficient public awareness and debate about these resources and their utilization.

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Ocean economy, with other sub sectors, mainly consists of marine fishing, coastal tourism and transportation, natural resources extraction, etc. Marine fishery, next to agriculture, is an important occupation of the coastal people and the sector plays a significant role in the economy. This sector is, however, under threat due to the intrusion of foreign fishermen into Bangladesh territorial waters mostly from countries like India, Myanmar, Thailand, and Sri Lanka to catch fish with mechanized trawlers and boats. While fish in the Bay already stay away from Bangladesh shore due to extreme marine pollution caused by dumping of industrial effluent and waste, oil spillage etc., the frequent sealing of marine fishes has caused a decline in the country's stock. Coastal tourism has become one of the most prospective sectors for Bangladesh. In a study, Rahman, Hossain, Miti, and Kalam (2010) asserted that tourism is one of the fastest growing and single largest industries in the world. The contribution of tourism industry in the global as well as individual perspective is really amazing. Bangladesh has been an attractive destination for various categories of tourists. But at present, its position is not significant in terms of international tourism market. Natural resources in the Bay of Bangle have attracted much concern recently. It is assumed that large numbers of different minerals and resources are deposited in the bay. Bangladesh did not take proper initiatives to measure and extract its potential resources from the sea. Extraction of marine resources in a proper way can solve our acute energy crisis and ensure uninterrupted power supply to the country.

## 2. OBJECTIVE OF THE RESEARCH

The main objective of the research is to analyze the ocean economy of Bangladesh. Besides this, some core objectives are taken to comply with the main objective, those are as follows:

- i. To know the present contribution of ocean to the economy of Bangladesh.
- ii. To find the obstacles of utilizing ocean for the betterment of the economy.
- iii. To suggest recommendations for achieving optimum level of resources from the ocean.

## 3. METHODOLOGY OF THE STUDY

This research focuses primarily on qualitative analysis. Secondary sources of data were used for this research such as books, journals, articles, dissertation, annual reports and websites. It is mainly based on conceptual ideas, secondary information and empirical data. The secondary information is collected through a survey of literature and relevant internet based websites. All data have been studied carefully and analyzed critically to show the findings.

## 4. LITERATURE REVIEW

The concept of the ocean economy refers to as the blue economy, is one that simultaneously promotes economic growth, environmental sustainability, social inclusion and the strengthening of oceans ecosystems. The ocean economy offers significant development opportunities and also raises challenges for these sectors such as sustainable fisheries and aquaculture, renewable marine energy, marine bio-prospecting, maritime transport and marine and coastal tourism (UNCTAD 2014). This thought is, however, the new inclusion and compilation in the existing knowledge. The oceans economy is a relatively new concept that has its origin in the green economy concept endorsed at the United Nations Conference on Sustainable Development, held in Rio de Janeiro in 2012 (UNCTAD 2014). The sectors of the Ocean Economy study include: (1) living resources, (2) coastal tourism and recreation, (3) offshore minerals, (4) ship and boat building and repair, (5) maritime transportation and ports, and (6) coastal construction. Living resources as fish and fish products are an important sector of global trade. In 2013, total world exports of fish and fishery products were estimated to reach US\$136 billion, showing an average of 12 per cent annual increase over the prior 10 years (FAO 2014). There is also enormous potentiality for Bangladesh in coastal

tourism sector. Rahman et al. (2010) stated that tourism sector has the potential to make a huge contribution in the economy of Bangladesh. By ensuring proper development of this sector, it is possible to earn a large amount of foreign currency which will contribute to the growth of national economy. The sector provides an ample employment opportunity for the people who are directly or indirectly involved in this sector. The unemployment problem of the country can be reduced partly by developing necessary infrastructure for this sector. It will help increase household income at community level and as well as the revenue of the government. It will also help reduce the economic gap between the rich and poor people of the country. Rahman et al. (2010) further detailed that unplanned development beside the tourism spots affect the physical environment of the spots. It destroys the natural scenic beauty of the sites. For example, at Cox’s bazaar sea beach and Saint Martin Islands, development of many unplanned commercial establishments, such as hotel, motel and shopping centers disturbs the tourists and as well as spoils the environment. Absence of master plan with detailed land use plan for each urban or rural community is a common problem in the country. Tourism development requires a huge infrastructure development that cannot be ensured without physical plans.

**5. ANALYSIS AND FINDINGS**

The subsector of the ocean economy includes marine fishing, aquaculture, ocean energy and mining, renewable energy as wind, wave, tidal, biomass, industrial salt, regional and international transportation by shipping, port facilities and costal tourism. Analysis of this paper will contain the following sectors

- i. Marine Fishing
- ii. Coastal Tourism
- iii. Marine Energy
- iv. Marine Transportation

**5.1 Marine Fishing**

Fish is an important source of food for millions of people, supplying proteins and minerals in a combination offered by almost no other foodstuff. Although the industrialization of fishing has led to the loss of many jobs over the years, around 50 million people worldwide still earn their living by catching fish. (World Ocean Review, 2013)

**5.1.1 Present contribution**

Fishery as a sub-sector of Bangladesh plays significant role in the country’s economy in terms of employment generation, nutrition supply and export earnings. It contributed 4.43 percent to the country’s GDP and 22.21 percent to the agricultural GDP in FY 2011. The country’s export earnings from this sector are 2.73 percent. It is the third highest export earner of the country after readymade garments and jute. About 10 percent of the country’s population depends on fisheries for their livelihoods. Fish alone is supplementing more than half of animal protein in our daily dietary requirement.

**Table 1: Contribution of Fishery Sector to GDP (1995-96=100 %)**

Year	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Percentage	4.65	4.58	4.49	4.43	4.39

Source: Bangladesh Economic Review, 2012.

The fishery sector has two major production systems, (a) inland fisheries and (b) marine fisheries. The inland fishery has two production systems – (i) inland open water i.e. captures fisheries and (ii) inland closed water i.e., culture fisheries. Table 2 presents the production of fish during the last 5 years. The annual average growth rate during the last five years was around 5.89 per cent and is showing an upward trend with little fluctuations most likely due to adoption of various good management practices undertaken in recent years.

**Table 2: Sector-wise Fish Production in Inland and Marine Fisheries FY 2008 – FY2012**  
(Lac tones)

Types of fisheries	FY2008-09	FY2009-10	FY2010-11	FY2011-12	FY2012-13	Average
Inland capture	9.08	10.29	10.54	9.57	9.61	9.82
Inland culture	11.82	13.52	14.60	17.26	18.60	15.16
Marine fishes	6.11	5.17	5.46	5.78	5.89	5.69
Country total	27.01	28.99	30.62	32.62	34.10	30.67
Annual growth rate	5.39	7.33	5.62	6.47	4.53	5.89

Source: Bangladesh Economic Review, 2014.

Inland capture fisheries was the major source of fish production in the past but it has declined during the last three decades mainly due to over fishing and destructive fishing and loss as well as degradation of fish habitat/ecology due to human intervention, chemical fertilizer and pesticide and natural causes. While the aquaculture in inland and coastal waters have grown rapidly, almost doubling the production in last decade with technological improvement and extensive service. The extraction of marine fishes was almost same during the last several years in an average annual rate of 5.69 Lakh tones in spite of rapid fish demand in domestic and foreign countries and market price.

#### 5.1.2 Problems of ocean fishery

Bangladesh marine fishing sector faces severe problems. Illegal fishing and poaching in the Bangladesh marine waters is one of them. In effect, illegal fishing takes place in the country right up from its inland waters down to deep waters in the ocean. In the former case, fish catch becomes illegal when prohibited nets are used, unlicensed fishermen catch fish, fishing is non-seasonal, fish catch during breeding period, catch of fish fries (immature fish) and *jatka* (juveniles of Hilsa fish) etc. Of these, the illegal catch of *jatka* is the most serious one as Hilsa contributes 30% of the total fish production in Bangladesh and about 40% of fishermen or 2% of the total population of the country earn their livelihood on Hilsa fishery directly or indirectly. They are caught in large amount using nets of small mesh size during their grazing period in rivers as well as in sea shore by artisanal fishermen.

Around 800 million tons of fishes are caught in the bay every year but only 0.7 million tons of fishes are caught by Bangladeshi fishermen. It is less than one per cent the country extract from its vast amount of ocean fish resource. Almost 3 million fishermen catch fish in the bay by using around 60 thousand small wooden fishing boats only from 30 kilometer area of the bay near to the coast. Due to the lack of modern industrial fishing trawler, skilled manpower and lack of comprehensive survey about the area and amount of marine fisheries resources, fishermen cannot go in the deep sea for fishing. (The Kaler Kantho, 6 January, 2015)

Illegal fishing in the coastal water by the Indian, Thailand and Myanmar with large and modern fishing ship decreases our stock of fish resource. Moreover, Bangladeshi fishermen are mugged by gang and robber in the bay and loss their total investment. Now-a-days, it becomes one of the key challenges for our fishermen to extract fish in the sea and invest in this sector. Due to lack of modern equipment and communicative device, large number of fishermen dies every year by various natural disasters such as cyclone, hurricane and typhoon.

Lack of policy rules and guidelines about capturing minimum sea fish size of different species, fishermen often catch all types of fry (newly hatched fish) and Smolt fish ( juvenile fish, next stage of fry ) before they become adult. Also netting one Alevin (a newly hatched fish when still attached to the yolk sac, early stage of fry) of shrimp, fishermen killed hundreds of thousands other species Alevin, fry and molt. Moreover, environmental degradation, climate change, natural hazards and disasters decrease the fish stocks in the ocean.

### **5.2 Coastal Tourism**

Tourism is one of the most attractive investment and earning sectors. Around 900 million tourist travel worldwide per year and it will reach at 1600 million within 2020. In that time, tourism sector will contribute 10 percent of the world economy and deploy more than 300 million people all over the world in its different sectors. In terms of the contribution of tourism sector to GDP, Bangladesh is 142<sup>th</sup> position among 176 countries (The Kaler Kantho, 6 January, 2015). Bangladesh has the immense potentiality of tourism to contribute to the national economy. There is 120-kilometer world longest sea beach in Coxes Bazar, coral island of Saint Martin, hilly island of Moheskhal and some others large numbers of coastal tourism spots. The annual turnover in the beach city is over Tk 8.00 billion in terms of transportation and stay. Bangladesh could earn a lot of local and foreign currency by attracting both local and foreign tourist. For this, Bangladesh has to build proper costal tourism infrastructure, ensure adequate transportation and accommodation facility, measure proper safety, security and political stability, local people engagement and branding of Bangladesh tourism.

Bangladesh tourism still faces many problems including areas of marketing, management, infrastructure, policy, safety, regulation and image. Especially coastal tourism in Coxes Bazar, Saintmartin and Kuakata faces inadequate infrastructure facility such as lack of roads and highways, proper security and safety measures, fresh and clean environment. Political instability hampers the expected growth of this sector. Besides unplanned development of hotel, motel and residential area in cox bazar loses the beauty of coast city. Around 3 million tourist visit coxes bazar every year. (The Financial Express, 30 November, 2014) The number of foreign tourist decrease due to the absence of recreational facilities.

### **5.3 Marine Energy**

Oil and natural gas are the key resources powering industrial societies. But deposits are dwindling and prices are rising. For this reason, companies are turning their attention to the oil and gas deposits deep in the oceans which were previously thought too difficult and expensive to tap. More than one third of the oil and gas extracted worldwide comes from offshore sources. (World Ocean Review, 2014) Throughout the Earth's history, natural gas and mineral oil have formed from the remains of marine algae and land plants, with large deposits accumulating in certain rock strata. Today, using modern drilling techniques and giant platforms, these resources are being extracted from ever greater depths. Production systems are even being installed on the sea floor.

Still it is totally unknown about the total reserve of oil and gas in the Bay of Bengal. According to the US geological survey department, Bangladesh has 8 TCF gas reserve in the bay. Meanwhile, ConocoPhillips ensured more than 5 TCF gas reserve in 10<sup>th</sup> and 11<sup>th</sup> block in the bay of Bangle. Already India and Myanmar are searching for more than hundred TCF highly potential gas reserve in the Bay of Bangle. (The Kaler Kantho, 6 January, 2015) However, it is possible to get more gas and oil from the ocean. Besides, thirteen other valuable heavy metals are found there such as copper, magnesium, nickel, titanium dioxide, limonite, rutile, zircon, cobalt, garnet. Bangladesh can earn lot of foreign currency by perfectly extracting and exporting them.

#### **5.4 Marine Transportation**

About half of the world's population, most of its largest cities and industries tend to be concentrated in coastal area to ensure access to transport routes and continuous flows of resources and products. Between 80 to 90 per cent of the volume of global trade is transported by sea. In 2012, about 9.2 billion tons of goods were loaded in ports worldwide. Without oceanic and sea routes, globalization as we know it would not have been possible. Maritime transport is very important for Bangladesh economy as it is most convenient way to connect to the rest of the world and access international markets. With Chittagong and Mongla port, around 26 billion dollar of import and export transaction occurs in every year by 2600 marine ships. The fair of these ships are about 6 billion dollar. Bangladesh has only 70 ships and unfortunately day by day the number of ships is decreasing (The Kaler Kantho, 6 January, 2015). If Bangladesh took this opportunity then it would earn this 6 billion dollar. Other sub sectors of this market like ship-building, agency, freight-forward, banking, insurance, hotel and some other services can ensures large number of employment opportunity. Recently Bangladesh took contemporary decision to establish a deep sea port at Sonadia Island in Moheshkhali. By this mega project, Bangladesh can easily earn a lot of foreign exchange by facilitating international trade as well turn itself into a business hub in this region.

#### **6. FINDINGS**

After analyzing the features, challenges and the present scenario of the ocean economy of Bangladesh, the key findings are as follows:

- i. Less concentration has been given to the bay of Bangle, especially on the potential resources and its sustainable extraction.
- ii. Bangladesh is more dependent on inland culture and capture fish than marine fish. The growth rate of marine fish extraction is almost zero with little variation from its average annual extraction. The massive use of wooden trawler and backdated methods is the main reason for less marine fish extraction.
- iii. Coastal tourism has immense prospect for the economy of Bangladesh. Lack of adequate infrastructure, political instability and branding image are the key hindrances from expansion of this sector.
- iv. Bangladesh yet to measure its natural resources in the Bay of Bengal. There is unquestionable certainty about getting more gas and other resources reserve in the ocean.
- v. Marine transportation and sea port can lead the economy of Bangladesh towards the developed one.

#### **7. RECOMMENDATIONS AND CONCLUSION**

Bangladesh has to give more attention to the Bay of Bengal. Proper policy and comprehensive action plan can utilize the colossal opportunity from the ocean. Specially, using industrial ship with modern equipment for deep sea fishing will surge the extraction. Before that an inclusive survey

of marine fisheries resources followed by regular updating of data and monitoring should be taken. Different species of fish have to estimate on the basis of location and season. Proper steps should be taken to prevent from illegal catch of jatka and other species of pre-mature fish which will boost the Hilsa and other fish production and stock. Security and safety have to ensure for the fishermen from robbery in the sea. A visionary plan and well-timed implementation is needed for boosting the tourism sector. For more tourist arrival, adequate infrastructure such as an international airport should build in the Coxes Bazar immediately, Chittagong- Coxes Bazar highway and Coxes Bazar-Teknaf highway should be in four lanes. Also railway connectivity to Coxes Bazar can facilitate more tourist arrival on this ocean city. Immediate steps should be taken for measuring the presence of natural resources and its extraction. Bangladesh needs prompt initiatives for Building deep sea port which will increase the GDP growth in a rapid pace.

Finally it can be concluded to state that Ocean economy is a realistic opportunity for Bangladesh. The prospective benefits are enormous from fishing to oil and gas exploration, from shipping to tourism, from mineral resource extraction to enhance intra and inter regional trading. Avoiding disorganized initiatives and casual efforts, Bangladesh should take broad-based national efforts to utilize this realistic opportunity. Besides, countrymen including business people, who are directly involved in the process of investment, should setting up industries, business entities and venturing on entrepreneurial initiatives for utilizing the potentials of Ocean economy. They would be benefited directly by deploying themselves in the vast area of working sectors. Moreover, Bangladesh will be a developed country by proper utilizing these resources.

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