



BLUE ECONOMY AND SDG: A CRITICAL STUDY ON BANGLADESH

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Abstract: The blue economy improves livelihoods through sustainable use of marine resources and technological inputs, thereby promoting economic growth. Coastal and marine resources of economic importance are the main components of Bangladesh's blue economy. These resources are divided into biological resources, non-biological resources, renewable resources, and commercial and trade resources. The extreme events of climate change include warming trends, cyclones, sea level rise, drought, erosion, tides, salt water intrusion, floods, changes in rainfall trends, and ocean acidification. These extreme events will cause coral hiccups, species migration, loss of biodiversity, changes in species lifestyles, changes in the marine food chain, and ultimately affect the national economy. Therefore, establishing the adaptability of marine ecosystems to climate change is the primary requirement for maximizing benefits from the ocean. This background document provides a strategic framework for the implementation of the climate-resilient blue economy in Bangladesh. The framework is divided into four steps (i.e. problem identification, attention to areas that are important for climate change adaptation to the development of the blue economy, and activities to achieve goals and goal realization). Special attention needs to be paid to energy efficiency, marine and coastal biodiversity, ecosystem-based adaptation, building environmental resilience in coastal areas, restoring ecosystems, building economic resilience, and formulating development policies to adapt to the blue economy of climate change. Mangrove planting, oyster reef construction, mussel beds, sea-grass beds, marsh beds and coral reef protection, the use of renewable energy, special interventions in fisheries and island development, crop insurance, floating agriculture and salt tolerance, ecotourism development, marine protection Zones and declarations, ecologically critical areas, marine spatial planning, policy formulation, institutional integration, and continuous monitoring of the ocean are some examples of possible interventions needed for the development of a climate-resilient blue economy in Bangladesh.

INTRODUCTION

Professor Gunter Pauli first proposed the concept of blue economy in 1994. It only attracted a lot of attention at the recent Rio+20 conference in 2012. Bangladesh's blue economy is often confused with ongoing economic activity in the ocean. Of course, marine economic activities are a component of the blue economy, but not all types of marine activities, not only marine activities, are blue economies. A total of 26 marine economic functions can be identified as components of the blue economy. These include fishing, maritime trade and shipping, energy, tourism, coastal protection, maritime monitoring and surveillance. As a philosophical economic movement, the blue economy recognizes that certain aspects of the popular concept of "green life", such as the use of organic food and the application of certain forms of renewable energy, may not be economically realized for a large part of the world's people. The main goal of the blue economy is to create examples of organic cycles from the natural world and stimulate these processes to discover where and how the waste generated by various man-made sources is innovated and usable again. The blue economy is characterized by the rational use of marine assets, completely reduces ecological hazards and promotes human prosperity. It contains all financial exercises related to oceans, ports, coastal areas, and other ocean-based exercises. It focuses on the social economy and integrates with ocean trade and commerce, ocean science, and other economic activities. On a national and global scale, it helps countries that use marine assets. The focus of this economy is whether there is enough shortage in the country. Two thirds of the earth's land is under water and Bangladesh is also a river country. In this way, the blue economy can make a profound contribution to economic development and the improvement of social well-being. The "Blue Economy" was considered at the United Nations (UN) Rio + 20 Sustainable Development Conference held in Rio de Janeiro, Brazil, in June 2012. The ocean is the best source of energy use. Today, a large number of countries are working hard to ensure the most extreme use of the ocean in order to achieve sustainable improvement. Since your economy is now becoming an ocean-based economy, and the ocean is blue, this is why the ocean-based economy is called a blue economy.

It is one of the key factors to promote the social and economic development of coastal countries. At present, Bangladesh has found a large area in the Bay of Bengal through the maritime debate with India and Myanmar. Currently, Bangladesh can boast of being a blue economy country. With the expansion of regional territories and economic zones, such maritime settlements prefer Bangladesh. The geographical area covers more than 18,813 square kilometers of water, of which 200 nautical miles are quite extensive. The solution of the demand has opened an incomprehensible door for our country. Several discussions are taking place, focused on how to cultivate the use of our new marine economy capacity. The Bay of Bengal can be a very future-oriented source of the blue economy. Bangladesh can use its offshore assets such as oil and gas exploration, fishing, ship building and scrapping, salt gathering, tourism creation, etc.

The world is experiencing crises related to food, fuel, nature, the economy and money. The blue economy can deal with these difficulties in a systematic way. This is a unique and

imaginable insight into today's economy. The blue economy is an important part of our country. Since more than 70% of the regions on our planet are insured by the ocean, about 90% of global product exchanges are conducted through the ocean. In fact, our country has won great maritime borders. He spared no effort to investigate the mineral resources of the seabed without obstacles. There are a large number of biological and non-biological assets under the seabed and waters. In either case, we lack a skilled labor force to determine usability and research assets. In order to produce skilled labor in these fields, we have found a way to introduce advanced oceanography education into Bangladesh.

Now is the time for Bangladesh to start using marine resources to equip its work with learning and innovation to bring success to the country. Sea level rise and salinity rise are two major challenges facing coastal populations, and we must improve our ability to insure ourselves under such circumstances. We hope that the blue economy will become another horizon of expectations, and we hope to transform Bangladesh into a developed country.

The concept of the blue economy may not be well known in Bangladesh. But after the maritime border issues with Myanmar and India were resolved, discussions on the blue economy began. The package of judgments helped Bangladesh establish sovereignty over biological and non-biological assets within 200 nautical miles of the Bay of Bengal. Similarly, the decision with India was announced on July 7, 2014. Bangladesh's economy is largely based on the ocean, with a gross domestic product of 130 billion U.S. dollars, and the country's economy ranks 44th in the world. Regarding the importance of the blue economy, Prime Minister Sheikh Hasina (at the Dhaka Blue Economy Global Symposium on September 1, 2014) stated that marine economic activities and the management of the ocean and its assets through the "blue economy" can create new horizons for the improvement of coastal countries like Bangladesh. Currently, 90% of the country's foreign exchange is transported by sea. Fishing and other mineral assets in the Bay of Bengal can greatly contribute to the Bangladeshi economy. Marine fish is one of the most important export products of Bangladesh. It is now more appropriate to depend on marine assets and manage marine resources through the blue economy.

LITERATURE REVIEW

The concept of blue economy has not yet gained much popularity in Bangladesh. For this reason not many research papers are available on this subject. However, recently, a lot of attention was collected from researchers from all over the world. This term was introduced by Gunter Pauli (Pauli, 2010) and later popular after the UN Sustainable Conference on Janeiro held in Rio de Janeiro (Smith-Godfrey, 2016). The term "blue economy" does not have a universally accepted definition (Bollmann 2010). However, from the literature, it is understood that the blue economy is trying to use the ocean and coastal resources properly.

Jiang, Liu, and Su (2014) estimate a multifactorial production function model with a certain substitution elasticity in the case of the China ocean sector. It was raised from

6.46% to 13.83% of the country's contribution from 6.46% to 13.83%, from 2000 to 2011, and the average annual growth rate was 7.17%.

Zhang, Dong Yang, Wang, Song (2004) proposes some policies to achieve the sustainable development of the sea economy in China that includes-

- 1) To make ocean strategies as national strategy;
- 2) To achieve combined economic growth of sea and land;
- 3) To develop marine resources by science and technology;
- 4) Establish suitable legal institution for marine environment;
- 5) To create new idea of sea defending.

Nuryadin, Syaifudin, Handika, Seteobudi, Udjiyanto (2016) investigated the contribution of the Blue Economy in the Indonesian economy. They discovered that the oceanic sector represents 7.86% in the economy. In addition, they recommended that fish assets, maritime industries, ocean environments and marine services are very potential to develop.

Many researchers also inspected the contribution of tourism to economic development. The tourism industry can actively affect economic growth and tourists, and therefore can increase potential growth in the economy.

Ghali (1976) examined the growth hypothesis of tourists in the case of Malaysia and Singapore. They discovered that tourism has been caused by Singapore's economic growth, but it can cause Malaysian tourism.

Samimi, Sadeghi and Sadeghi (2011) estimated the relationship between economic growth and tourism industry in developing countries. They found that the views are one of the reasons for the economic development of their developing countries.

Tugcu (2014) examined the relationship between tourism growth and many countries in Asia, Africa and Europe. They discovered that European countries can produce income from the tourism sector. There is also another research that did not look at tourism and economic growth.

Ahmed, Allison, Muir (2010) examined freshwater shrimp agriculture in Bangladesh. Estimated annual average production at 467, 986 and 2,257 kg ha⁻¹, respectively. They also discovered that a great farmer has created a high production due to the largest input economy. In addition, they found that the longest experiences of the farm scale and shrimp agriculture have a positive impact on production. However, in the case of a Bangladesh that analyzes the contribution of marine resources in the economy from a sustainable development perspective, specific research has not been carried out.

NEED FOR STUDY

The main reason for choosing this topic was to learn about the Blue Economy more comprehensively and its performance regarding the economic development of Bangladesh.

Many countries of the world like the USA, the UK, Canada, China, Japan, Australia and the EU based countries have utilized their Blue Economic resources which in turn resulted in massive economic progress. From this point of view, in spite of having enormous Blue Economic resources, Bangladesh couldn't utilize such resources due to lack of proper initiative and administrative policies. In recent years, development has been brought to this sector which has given rise to a quantifiable number of challenges. However, from this study we may get a clear idea how the Blue Economy and the 14th goal of SDGs are interconnected and how it may assist to develop the economy of a nation in its own way.

OBJECTIVE OF THE STUDY

The primary objective of this study is to investigate the relationship between the Blue Economy and the 14th goal of SDGs and also the current scenario of the sea-based economy in Bangladesh. The contribution of this study is that it discusses the other sectors like tourism along with the fishing and aquaculture sectors with recent data. The main objectives of this study are given below-

1. To learn Blue Economy in depth;
2. To learn about global Blue Economy and its performance;
3. To learn about the relationship between the Blue Economy and the SDGs (14th goal);
4. To learn about the contribution of Blue Economy in the economy of Bangladesh;
5. To learn about the upcoming challenges and future development in this sector that Bangladesh has to embrace.

STATEMENT OF PROBLEM

The concept of the blue economy is not very known to the people of Bangladesh. On the other hand there are many countries of the world which have become economically developed depending on this sector. The question is why Bangladesh is still lagging behind in spite of having enormous oceanic resources. Is it due to the lack of proper government policies or the lack of fruitful initiative to utilize these resources? As the people of the country are not well aware of this mode of the economy, they have no idea how beneficial it can be to utilize these resources to boost up the economic growth of Bangladesh.

RESEARCH METHODOLOGY

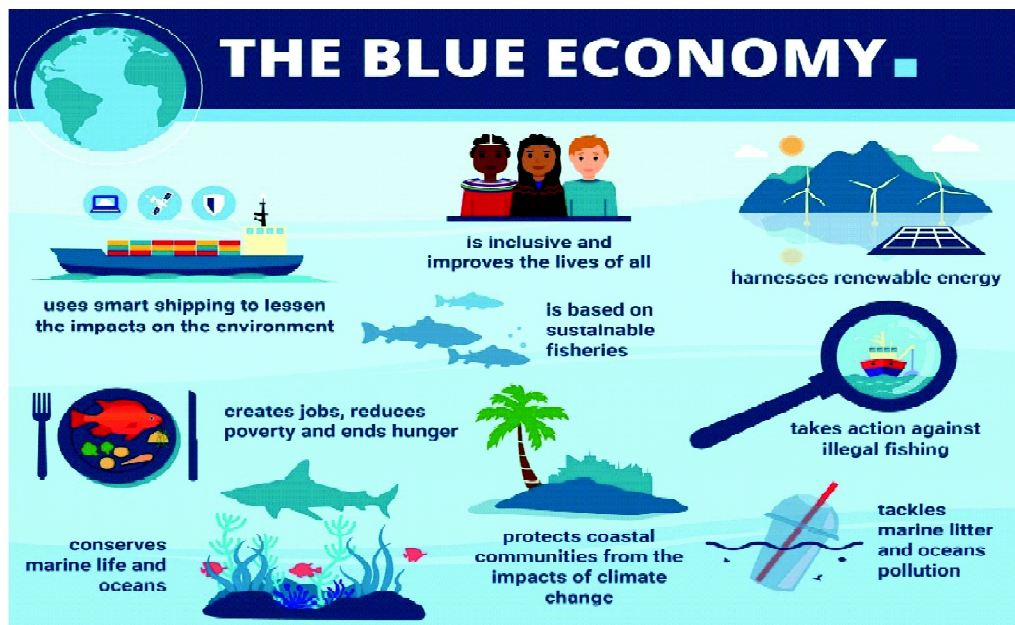
This study is completely based on secondary data since primary data was not that much available as per requirement. A lot of books on Blue Economy and SDGs, various journals, reports from newspapers on Blue Economy in Bangladesh were studied to conduct this research. Therefore, all these things have been done to reveal the hidden aspects of Blue Economy and its influence and contribution to the economy of Bangladesh.

ANALYSIS AND INTERPRETATION

1. Blue Economy- Broadly

According to the World Bank, Blue Economy is “Marine Resources for Economic Growth, Improve Work while maintaining the health of the Ministry of Life, and the sustainable use of work.” The European Commission is defined as “sea, sea, all economic activities related to the coast”.

“Blue economy” is an emerging concept that promotes better administration of our sea. In particular, we highlight the relevance between near Marina, climate change, and the happiness of people common wells. The heart has reconfirmed the value of common wells, including actions and public offers to coastal and coastal decisions is compatible with everything is an overview of the Sustainable Development Goals of the UN (AGDR), especially the “life” under water, and for current and future generations, continuously administering our ocean we recognize that ambitious and coordinated actions to protect and protect we are required.



Source: The UNDP report; 26th November, 2018

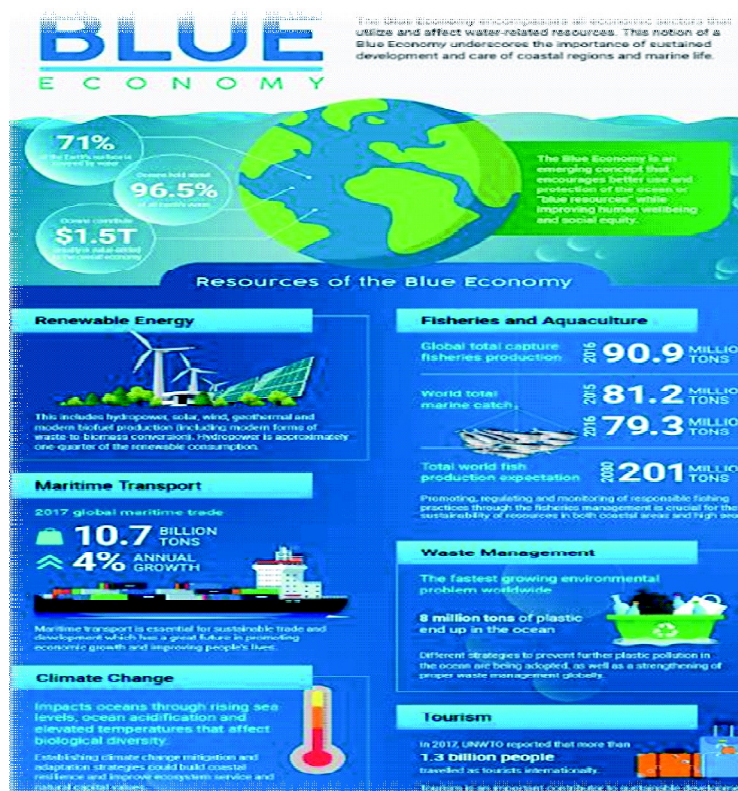
The blue economy does not only consider the marine economy as a mechanism for economic growth. In the “general business” model, large industrial countries often do not consider the development of the marine economy through the development of oceans and marine resources, such as shipping, commercial fishing, oil, natural gas, minerals and mining. The impact of your activities on the future health or productivity of these same resources. Relative to their land area, 4,444 small island states have vast ocean resources available for

their use, providing a great opportunity to promote their economic growth and solve the problems of unemployment, food security and poverty. They are also the ones who suffer the most from the degradation of marine resources.

Similar to the “green economy”, the blue economy model aims to improve human well-being and social equity, while significantly reducing environmental risks and ecological scarcity. It provides an inclusive model under which coastal countries that sometimes lack the ability to manage abundant marine resources can begin to extend the benefits of these resources to everyone. Realizing the full potential of the blue economy means the inclusion and participation of all affected social groups and sectors.

The blue economy is not just a market opportunity; it also provides for the protection and development of more intangible “blue” resources, such as traditional lifestyles, carbon sequestration, and coastal resilience, to help fragile countries reduce the damage that climate change usually has Sexual influence.

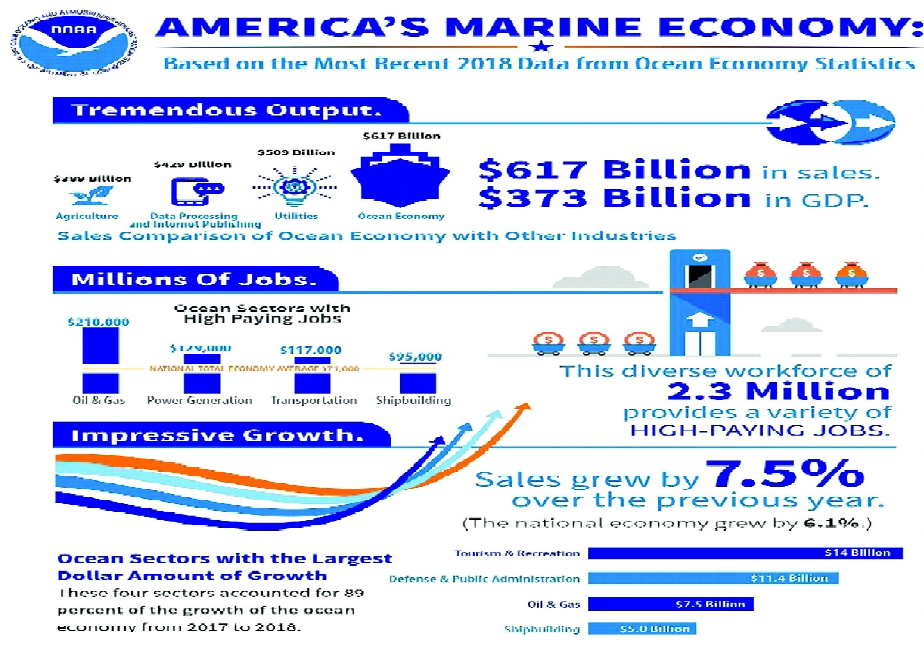
Secretary-General Patricia Scotland: “The Blue Charter will help countries develop a comprehensive approach to building a blue economy that takes into account the value of often overlooked sectors, such as artisanal fisheries, and the role of women and youth”.



Source: awatea.org.nz

2. Blue Economy- Across the globe

USA- Marine economic statistics released today by two US departments show that the US marine economy, including goods and services, contributed approximately \$ 373 billion to US GDP in 2018, which growing faster than the general US economy Organization of business.



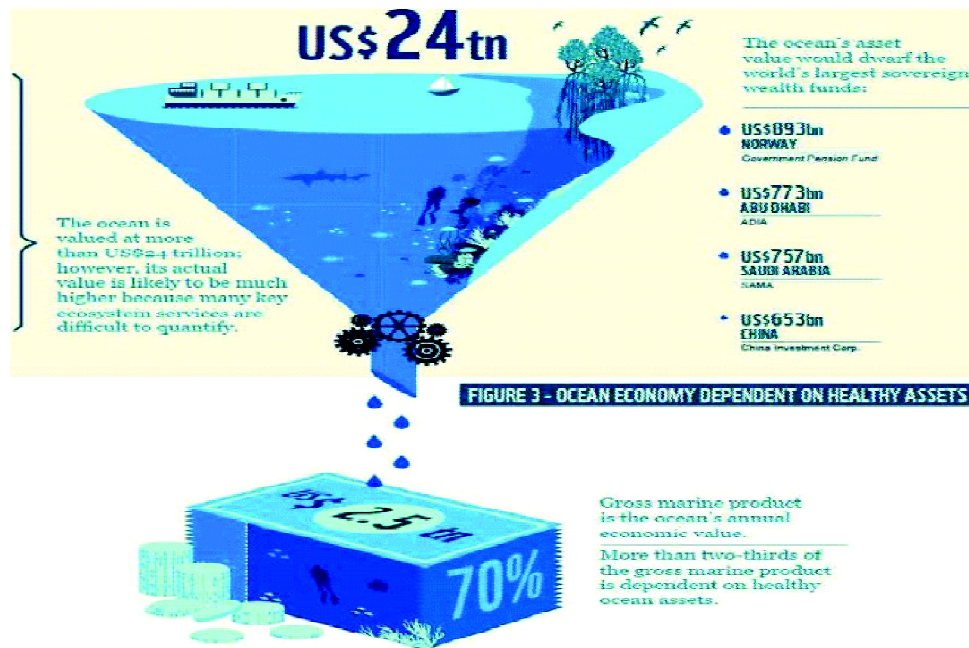
Source: NOAA and BEA

China- A new Silk Road is under construction, stretching from the South China Sea and Southeast Asia, through the Indian Ocean and the Middle East, to the Eastern Mediterranean. We are talking about China's ambitious 21st Century Maritime Silk Road, which will connect it to Eurasia.

It is estimated that in the last year, China invested US \$ 20 billion in ports and terminals. This is not everything. The report shows that in mid-2017, China's commercial fleet (excluding ships owned by Hong Kong) reached 147.2 million gross tonnage. This makes it the world's third largest fleet owner, accounting for 11.5% of the world's total, second only to Japan and Greece.

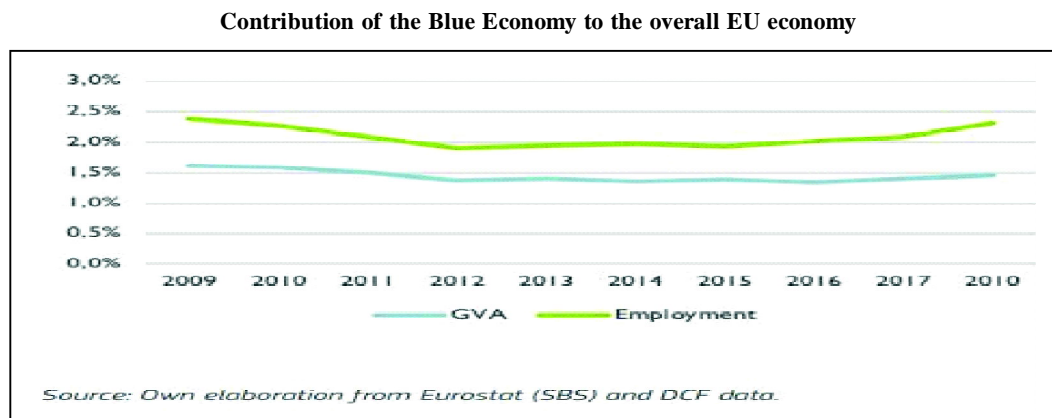
China's US\$1.2 trillion maritime industry has grown at a rate of 7.5% per year for the past five years and currently accounts for nearly 10% of its GDP. The country strives to reach about 15% of GDP by the marine industry by 2035. To this end, a world-class marine industry cluster is being built in the Guangdong-Hong Kong-Macao Greater Bay Area, transforming Shanghai and Shenzhen into global marine centers.

At the same time countries like Norway, Saudi Arabia have developed multifold through utilizing and improving their blue economic resources. Their ocean's asset values around US\$893bn and US\$757bn respectively.



Source: awatea.org.nz

European countries like Germany, France, Italy, Spain, Poland and others have created a milestone in developing their marine resources. The following figures show their improvement in various indicators like the GDP, GVA, GOS, employment, PCI etc.



Source: Eurostat (SBS), DCF and Commission Service

Figure : Size of the EU Blue Economy, € billion

Source: Eurostat (SBS), DCF and Commission Services

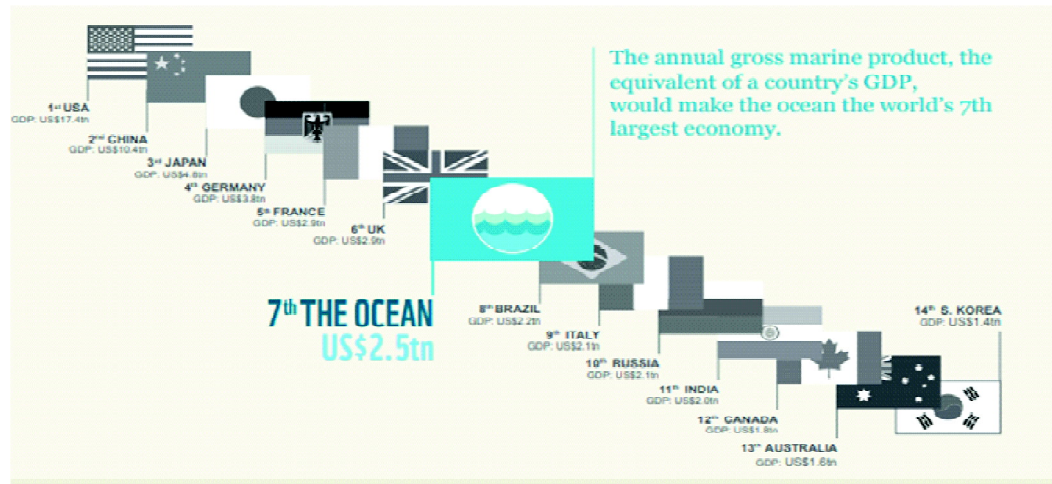
The following figure shows the output of various countries in billion US dollars. Countries like Australia, Canada, New Zealand, and the UK were not only able to create vast amount of earnings from this resource but also created employment for millions of people.

| Country | Size of Blue Economy | | | Indicative Employment | |
|----------------|----------------------|-----------------------|----------|-----------------------|-----------|
| | Year | Output (US\$ Billion) | % of GDP | Year | No. |
| Australia | 2004 | 17.00 | 3.6 | - | - |
| Canada | 2004 | 15.98 | 1.5 | 2006 | 1,71,365 |
| France | 2006 | 16.69 | 1.4 | 2009 | 4,59,358 |
| New Zealand | 2006 | 2.14 | 2.0 | - | - |
| United Kingdom | 2008 | 84.27 | 4.2 | 2006 | 5,48,674 |
| United States | 2009 | 138.0 | 1.2 | 2010 | 2,770,000 |
| China | 2010 | 239.09 | 4.0 | 2010 | 9,253,000 |
| Ireland | 2007 | 1.9 | 1.0 | 2007 | 17,000 |

Source: Compiled by RIS from various sources

The Indian Ocean is expected to become the dominant global geopolitical and economic force in the 21st century. In fact, the region's contribution to world GDP has increased significantly in the last century: from an average of 6% to 7% in 1980 to 10% or US\$78 trillion in 2014. However, based on total national income, there are only three IOR countries—that is, Australia, Singapore, and the United Arab Emirates are among the top 20 countries with the highest gross national income per capita. Due to the limited land

resource base, many islands and coastal IORCs rely on marine resources for economic opportunities. Therefore, achieving the goal of the blue economy is crucial to the prosperity and development of the region. It is anticipated that the annual gross marine product will become equivalent of a country's GDP soon enough which will make the ocean the world's 7th largest economy.



Source: Investment Insights Centre

(According to BLUE ECONOMY and the World Bank Group) Some recent examples of calculations of the ocean's economic contributions at the regional, national, and sub-national levels include:

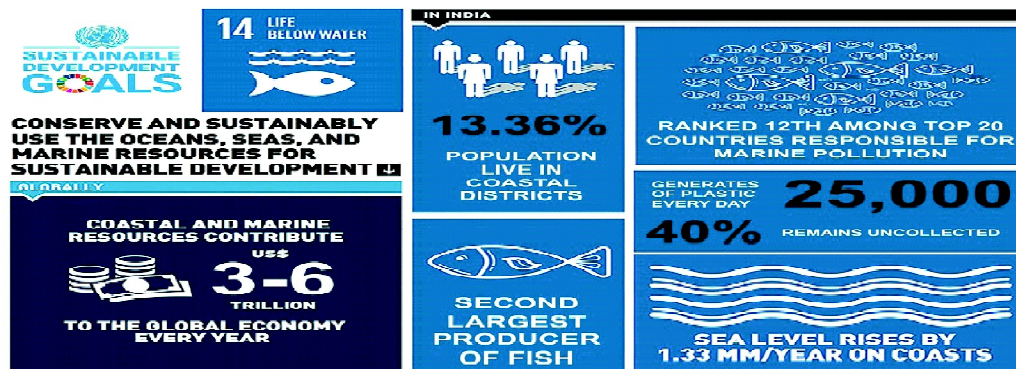
- Australia: contribution of AU\$47.2 billion to GDP in 2012, or over 3 percent of the total (National Marine Science Committee 2015);
- China: total gross value added (GVA) of US\$239 billion in 2010, or 4 percent of GDP, employing over 9 million people (Zhao et al. 2014);
- European Union: total GVA of €500 billion annually, employing over 5 million people (EC 2017a);
- Ireland: total GVA of €3.37 billion in 2016, or 1.7 percent of GDP (Vega and Hynes 2017);
- Mauritius: 10 percent of GDP on average for the period from 2012 to 2014 (Cervigni and Scandizzo 2017);
- United States: contribution of US\$359 billion to GDP in 2013 or more than 2 percent of the total, employing 3 million people (Kildow et al. 2016).
- U.S. State of California: contribution of US\$44.8 billion to GDP in 2012, or 12 percent of the state's total;

- U.S. State of Louisiana: contribution of US\$11.3 billion to GDP in 2011, or 4.8 percent of the state's total (Young 2014); and
- U.S. State of North Carolina: contribution of US\$2.1 billion to GDP in 2013, employing more than 43,000 people (Harrison et al. 2017).

3. Blue Economy and 14th goal of the SDGs

The Indian Ocean is expected to become the dominant force in global geopolitics and economics in the 21st century. In fact, the region's contribution to world GDP has increased significantly in the last century: from an average of 6% to 7% in 1980 to 10% or \$ 78 trillion in 2014.

However, based on gross national income, there are only three IOR countries, namely Australia, Singapore and the United Arab Emirates, which are among the 20 countries with the highest per capita gross national income. Due to the limited land resource base, many islands and coastal IORCs depend on marine resources for economic opportunities. Therefore, achieving the goal of the blue economy is vital for the prosperity and development of the region.



Source: UN-India

The following targets are to be achieved for a sustainable blue economy across the globe-

- By 2025, prevent and significantly reduce all types of marine pollution, especially pollution caused by land-based activities, including pollution caused by marine debris and nutrients.
- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid major adverse impacts, including strengthening their resilience, and take measures to restore them to achieve healthy and productive oceans
- Minimize and address the impacts of ocean acidification, including by strengthening scientific cooperation at all levels

- By 2020, effectively supervise fishing and end overfishing, illegal, unreported and unregulated fishing, and destructive fishing practices, and implement science-based Management plan to restore fish stocks in the shortest possible time at least
- By 2020, in accordance with national and international laws and based on best conditions, protect at least 10% of coastal and marine areas or scientific information available
- By 2020 , Prohibit certain fishing subsidies that promote overcapacity and overfishing, remove subsidies that promote illegal, unreported and unregulated fishing, and avoid the introduction of such new subsidies, while recognizing appropriate and effective special developing countries and least developed countries The differential treatment of countries should become an integral part of the World Trade Organization's fisheries. Grant Negotiations
- By 2030, increase the economic benefits of Small Island developing States and least developed countries through the sustainable use of marine resources, including through the sustainable management of fisheries, aquaculture and tourism
- Increase scientific knowledge, Develop research capabilities and transfer technologies for marine resources and resources, taking into account the standards and guidelines of the Intergovernmental Oceanographic Commission on the transfer of marine technology, in order to improve marine health and increase the development of biodiversity in developing countries, especially small islands in developing countries. Contributions and LDCs
- Promote small-scale artisanal fishermen's access to marine resources and markets
- Through implementation as stated in paragraph 158 of the future, the United Nations Convention on the Law of the Sea reflects international law for conservation and sustainable use The Ocean and its resources provide the legal framework

4. Blue Economy and Bangladesh

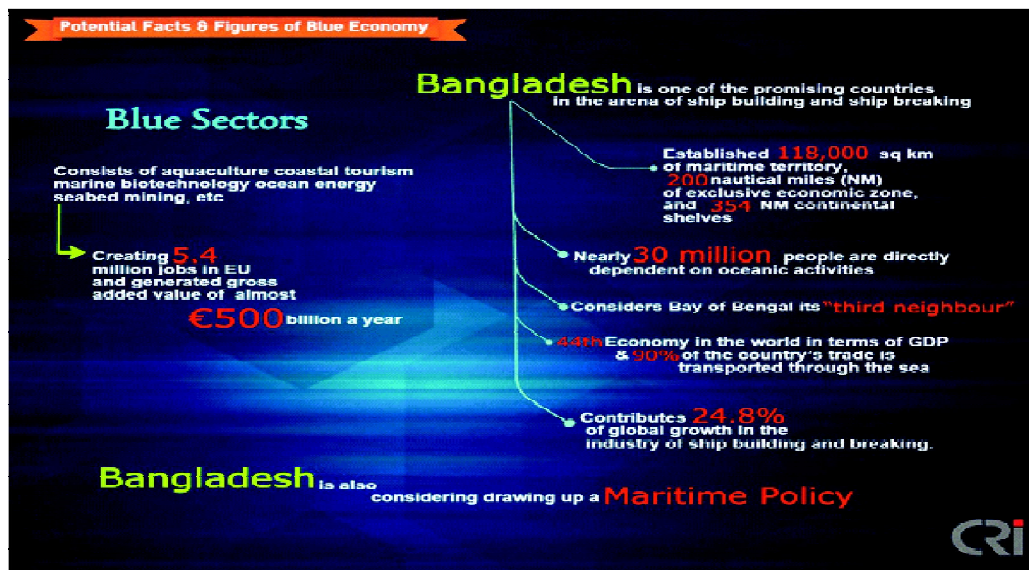
Whether through the network cables that cross the seafloor on which global communications depend, the exploration of oil and gas on the seafloor, or the availability of fishery resources, the ocean has long been an indispensable part of the worldwide economy.

The marine economy (commonly known as the blue economy) has become a key development issue to optimize the use of the oceans and marine resources to achieve sustainable development. In the Sustainable Development Goals (SDGs), SDG 14 focuses on the sustainable use of oceans, oceans and marine resources to achieve sustainable development. Marine assets provide food and energy, which are the building blocks of human life. If three-quarters of the earth's surface is analyzed, it will be difficult to achieve sustainable economic development by 2030. In light of this, Bangladesh has taken steps to ensure the sustainable use of oceans, oceans and marine resources in order to achieve inclusive development and related SDG 14 targets.

Bangladesh has a coastline of 710 kilometers and a 200 nautical mile exclusive economic zone in the Bay of Bengal. Marine fishing represents 19.40% of the country's total fishing production. Furthermore, an average of 81.0% of international tourists visited Cox's Bazaar in Bangladesh. Bangladesh's ocean has made a significant contribution to its overall socio-economic growth by strengthening economic activities throughout the country, especially in the southern coastal areas.

The Bay of Bengal delimits a new economic zone in Bangladesh. Bangladesh has already taken steps to prosper its blue economy in order to use its new marine resources. Since 2015, the Government of Bangladesh (GoB) has held numerous consultations and seminars on the blue economy. Additionally, Bangladesh's Seventh Five-Year Plan (7FYP) mentions twelve actions to maintain a prosperous and sustainable blue economy, including fisheries, renewable energy, human resources, transshipment, tourism, and climate change. In addition, in 2017, the "Blue Economy Group" under the Ministry of Foreign Affairs (MoFA) was established with the task of coordinating intersectoral blue economy initiatives.

The blue economy is expected to contribute to the Bangladeshi economy at a higher level. The Ministry of Foreign Affairs has identified 26 possible sectors of the blue economy, including fisheries, maritime trade and shipping, energy, tourism, coastal protection, maritime security, and vigilance for the economic development of Bangladesh.



Source: CRI-Bangladesh (blue-growth.org)

Four facts about Blue Economy in Bangladesh

- The Bangladeshi economy receives more than 6 billion U.S. dollars in income from the ocean every year and has the potential for growth. In fiscal year 2014/15, the gross

value added (GVA) of Bangladesh's marine economy was approximately US\$6.2 billion, accounting for 3.3% of the country's total GVA. However, despite the dispute settlement granting Bangladesh the right to explore resources within 118,813 square kilometers of the Bay of Bengal, the country has yet to seize the opportunity.

- Nearly 90% of Bangladesh's trade is conducted by sea. Approximately 17 million people are employed in the fisheries and agriculture sectors, and more people rely on the sea for income, food security and nutrition. Therefore, if its potential is fully exploited, the blue economy can have a significant positive impact on the country.
- Due to a lack of initiative in Bangladesh, most of the potential of the 26 identified sectors for the blue economy has yet to be realized. In 2017, the Blue Economy Group (BEC) was established under the Ministry of Electricity, Energy and Mineral Resources, but this is the scope of actions taken by the government of Bangladesh. So far, the group has only held a few meetings.
- On October 25, 2018, the Government of Bangladesh signed an agreement with the World Bank to provide financing for a \$ 240 million project. "Marine and sustainable fisheries projects will help improve fisheries management systems, necessary infrastructure and investments in the value chain, and will encourage the private sector to invest more in the supply and quality of marine fish." The project will also help reform fisheries policies and regulations. Since the fisheries sector is the second largest export earning sector in the country, the project should add more to Bangladesh's blue economy initiatives.

SHIPPING

Most of Bangladesh's foreign trade in goods is by sea (2018), accounting for 90.0% of the country's total trade in goods. Therefore, our economy may be highly dependent on trade in goods in the future. Therefore, in order to retain a large amount of domestic cargo, local shipping companies can be encouraged to add more ships to the existing fleet. In addition, industries such as coastal shipping, seaports, passenger ferry services, inland water transport, shipbuilding, and ship recycling should become more important industries for achieving sustainable economic growth in my country.

FISHERY

Experts believe that in addition to snails, shellfish, crabs, sharks, octopuses and other animals, there are more than 500 species of fish alone. It is estimated that of the 8 million tons of available fish in the Bay of Bengal, Bangladesh only catches 700,000 tons of fish each year. It is worth mentioning that 15.0% of the world's protein comes from marine resources. Since many people depend on the sea for their livelihoods and food, greater efforts are needed to save marine resources. Oil and gas: Bangladesh has not yet assessed the true potential of its offshore gas prospects. Bangladesh may also have gas fields in its waters. Bangladesh has some gas fields on land. Like Myanmar, it may be possible for

Bangladesh to build more gas fields offshore, which can increase the country's total gas reserves. In addition, oil and natural gas, sea salt, marine renewable energy, blue energy (infiltration) and biomass, aggregate mining (sand, gravel, etc.) and marine genetic resources should receive more attention as resources. Therefore, this huge potential can contribute to our sustainable economic development in the future.

TOURISM

Globally, coastal tourism is the largest market segment, accounting for 5.0% of global gross domestic product (GDP) and 6.07.0% of total employment. Among 150 countries, it is one of the five largest export earnings. It is the main source of foreign exchange for half of the least developed countries (LDCs). Coastal tours include:

- (a) Beach-based recreation and tourism;
- (b) Tourist activities in proximity to the sea; and
- (c) Nautical boating including yachting and marinas.

Sustainable tourism can create new jobs and reduce poverty. Therefore, Bangladesh can earn foreign exchange from tourism, which can contribute to GDP growth and help achieve the Sustainable Development Goals by 2030. The country reportedly has 75 outer islands that can be used by local and foreign tourists. .

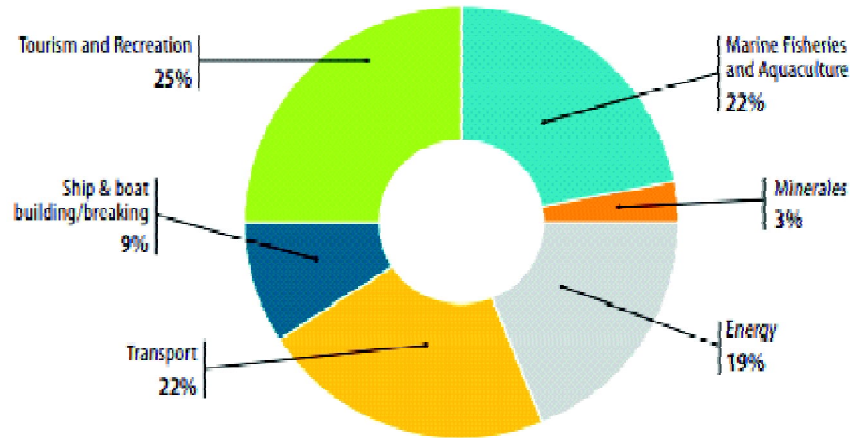
FUTURE OF EXPLORATION

By using appropriate technologies to explore and develop these marine resources, Bangladesh's economy can grow rapidly. After long-term settlement of maritime border disputes with India (2014) and Myanmar (2012), Bangladesh has won a clear sea area in the Bay of Bengal. By ensuring a sustainable balance between the protection of marine ecosystems and marine resources, Bangladesh can focus on advancing the blue economy and make use of its vast marine areas and marine resources. Now Bangladesh can ensure economic growth by creating more space for new investments in maritime trade.

So far, the country has only explored a few sectors of the blue economy, such as fisheries and aquaculture, shipbuilding, shipbreaking, salt production, and port facilities. Also, most of these departments follow traditional methods. Therefore, there are still many opportunities and challenges to explore a large number of blue economy industries, protect mangroves and sea-grasses, respond to environmental changes and manage carbon emissions, and introduce innovative technologies for further development. to promote the realization of the sustainable development goals.

5. Blue Economy- A latent sector in Bangladesh

Potential Blue Economy Sectors of Bangladesh which may turn this country into an epitome of economic development-



Source: Composition of the Ocean Economy in Bangladesh, Percent of Gross Value Added (2014-15), BLUE ECONOMY and the World Bank Group

Shipping

Coastal countries must position themselves in facilities to catch up with this developing exchange and optimize its advantages. For the modification of any product from one country to another, this ship is the safest, safest, most productive and ecologically stable. In addition to the seaports of Chatum and Mongla, the possibility of establishing a deep-water port on Sonadiya Island in Cox's Bazar is very high.

Fisheries

Fishery is an important economic sector of coastal countries within the geographic area of the Bay of Bengal, ie. Sri Lanka, India, Bangladesh, Myanmar, Thailand, Malaysia and fish are the main animal super molecules in the diet of the general population in these countries. It has the least relationship with culture and religion. According to current estimates, the combined range of full-time fisheries in the Geographical Bay Area (BOBP) is 1.85 million. There are 350 million jobs worldwide related to marine fish, and 90% of fishermen live in developing countries.

Minerals

There are a lot of minerals under the Bay of Bengal. The following table shows the concentration of valuable mineral deposits such as zircon and magnetite, indicating that blue growth is possible as long as collection is achieved sensitively.

Tourism

Marine and coastal businesses are of great importance to some developing countries. Companies may be the leading industry in the world; In 2012, global economic crises were

| Year | Frozen Shrimp/prawn | | Live Fish | | Frozen Fish | | Chilled Fish | | Dry fish | | Salted fish | | Crab & Kuchia | | Others | |
|---------|---------------------|---------|-----------|--------|-------------|--------|--------------|--------|----------|-------|-------------|-------|---------------|--------|--------|-------|
| | Qty | Value | Qty | Value | Qty | Value | Qty | Value | Qty | value | Qty | Value | Qty | Value | Qty | Value |
| 2000-01 | 29713 | 1885.2 | 0 | 0 | 7965 | 94.89 | 0 | 0 | 137 | 2.02 | 838 | 27.73 | 154 | 2.33 | 0 | 0 |
| 2001-02 | 30209 | 1447.8 | 0 | 0 | 9864 | 137.39 | 0 | 0 | 517 | 8.32 | 293 | 9.53 | 336 | 7.07 | 0 | 0 |
| 2002-03 | 36864 | 1719.9 | 0 | 0 | 8846 | 158.64 | 0 | 0 | 333 | 7.02 | 526 | 19.12 | 630 | 14.58 | 0 | 0 |
| 2003-04 | 42943 | 2152.8 | 0 | 0 | 10229 | 202.24 | 0 | 0 | 472 | 4.16 | 377 | 1.38 | 116 | 1.39 | 0 | 0 |
| 2004-05 | 46533 | 2281.6 | 0 | 0 | 15763 | 256.2 | 0 | 0 | 272 | 3.71 | 770 | 28.97 | 38 | 0.86 | 0 | 0 |
| 2005-06 | 49317 | 2698.4 | 57 | 0.48 | 17429 | 294.14 | 0 | 0 | 150 | 2.19 | 591 | 19.84 | 1107 | 12.95 | 100 | 1.09 |
| 2006-07 | 53361 | 2992.3 | 4 | 0.07 | 18376 | 325.9 | 0 | 0 | 77 | 1.34 | 441 | 12.8 | 1123 | 15.48 | 78 | 0.86 |
| 2007-08 | 49907 | 2863.9 | 10 | 0.15 | 23515 | 495.46 | 0 | 0 | 210 | 2.67 | 658 | 26.97 | 439 | 4.88 | 294 | 0.41 |
| 2008-09 | 50368 | 2744.1 | 0.3 | 0.006 | 19294 | 450.89 | 0 | 0 | 341 | 11.99 | 84 | 3.92 | 1217 | 11.98 | 1308 | 18.73 |
| 2009-10 | 51599 | 2885.2 | 1783 | 13.22 | 21464 | 458.11 | 0 | 0 | 622 | 25.06 | 0 | 0 | 692 | 10.41 | 528 | 3.85 |
| 2010-11 | 54891 | 3568.2 | 0.6 | 0.045 | 16743 | 490 | 16369 | 421.05 | 623 | 5.57 | 577 | 30.86 | 4485 | 54.11 | 2780 | 33.97 |
| 2011-12 | 48007 | 3640.2 | 0.46 | 0.04 | 15513 | 396.18 | 19026 | 520.74 | 996 | 9.43 | 411 | 27.46 | 5767 | 95.77 | 2758 | 14.14 |
| 2012-13 | 50333 | 3376.2 | 0 | 0 | 11435 | 316.36 | 11831 | 246.86 | 1278 | 36.03 | 0 | 0 | 7428 | 169.49 | 2599 | 13.93 |
| 2013-14 | 47635 | 4118.8 | 0 | 0 | 11677 | 337.11 | 5021 | 89.07 | 2634 | 29.67 | 261 | 21.65 | 7707 | 164.75 | 2393 | 15.89 |
| 2014-15 | 44278 | 3937.6 | 0 | 0 | 10656 | 277.63 | 11629 | 177.08 | 2845 | 36.74 | 261 | 25.37 | 12558 | 199.38 | 1297 | 6.81 |
| 2015-16 | 40726 | 3598.67 | 12454 | 184.28 | 11133 | 273.76 | 7428 | 163.52 | 2229 | 30.12 | 249 | 21.03 | 106 | 7.09 | 1013 | 4.35 |
| 2016-17 | 39705.85 | 3682.26 | 0 | 0 | 8281.23 | 236.65 | 4123.55 | 94.99 | 2296.69 | 30.19 | 206.9 | 18.57 | 12882.5 | 220.26 | 808.8 | 4.65 |

Quantity in Metric Ton.

Value in Core Taka; 1 US Dollar = 80.59 Taka.

Source: Year-wise annual export of fish and fish products in Bangladesh (2000–01 to 2016–17), FRSS-2017

| Heavy Minerals – Valuable Components | | | | | | | | | |
|--------------------------------------|------------------------|---------------------|--------|----------|----------|---------|----------|-----------|-------|
| Deposits | Total Heavy Mineral(%) | Valuable Components | | | | | | | |
| | | Zircon | Rutile | Ilmenite | Lecoxene | kyanite | Monazite | Magnetite | Gamet |
| Main Coast | | | | | | | | | |
| Badarmokam | 23.3 | 1.2 | 0.80 | 23.0 | 4.38 | | 1.20 | 2.50 | |
| Sabrang | 19.7 | 6.1 | 2.00 | 28.6 | 5.06 | 1.06 | 0.30 | 1.46 | 4.40 |
| Teknaf | 22.8 | 6.4 | 3.00 | 37.0 | 4.55 | 3.33 | 0.70 | 1.63 | 5.07 |
| Silkhali | 17.8 | 6.8 | 2.20 | 35.4 | 2.24 | 0.90 | 0.80 | 0.63 | 8.05 |
| Inani | 24.1 | 6.2 | 2.30 | 30.3 | 0.25 | 0.80 | 0.55 | 3.16 | 7.30 |
| Coxs Bazar | 18.0 | 2.5 | 0.75 | 17.5 | 1.14 | | 0.22 | 3.61 | 5.50 |
| Kuakata | 28.95 | 1.16 | 0.35 | 9.14 | 1.16 | 2.20 | 0.01 | 0.52 | 6.28 |
| Moheshkhali | | | | | | | | | |
| Fore-Shore Beach | 42.2 | 5.98 | 3.17 | 46.02 | 2.42 | Trace | 0.11 | 0.69 | |
| Kutubjum | | | | | | | | | |
| Kutubjum | 20.8 | 4.30 | 1.98 | 34.31 | 1.09 | 2.48 | 0.19 | 1.10 | |
| Fakkiraghona | 23.5 | 2.21 | 2.13 | 23.02 | 1.39 | 7.40 | 0.08 | 0.42 | 6.80 |
| Fakirahata | 21.8 | 5.70 | 4.00 | 22.90 | 3.80 | 9.90 | 0.20 | 0.10 | 6.20 |
| Baraghoriapara | 19.2 | 3.31 | 3.71 | 28.73 | 3.53 | 7.60 | 0.51 | 0.68 | 6.50 |
| Panichara | 12.8 | 5.96 | 3.17 | 29.35 | 2.70 | 8.04 | 0.26 | 1.89 | 6.60 |
| Hcanak(Naibila) | | | | | | | | | |
| Hcanak(Naibila) | 7.3 | 1.41 | 2.15 | 19.66 | 0.97 | 1.55 | 0.05 | 1.78 | |
| Matarban | | | | | | | | | |
| Matarban | 22.4 | 5.22 | 1.94 | 32.6 | 2.46 | Trace | 0.13 | 3.78 | |
| Nijhum Dwip | 25.0 | 2.13 | 0.44 | 13.47 | 0.06 | 2.69 | 0.02 | 4.55 | |
| Kutubdia | 29.0 | 3.25 | 1.59 | 19.83 | 2.03 | 2.16 | 0.08 | 2.82 | 5.25 |
| Mean Value | 23.00 | 4.20 | 2.04 | 26.03 | 2.30 | 3.92 | 0.31 | 1.87 | 6.45 |

Source: CRI-Bangladesh (blue-growth.org)

reduced by times, despite the global financial crisis and GDP on September 11 reached times. In 2012, 4,444 companies supported 4,444 world occupations on September 11 and created the land's export earnings on June 6, 1944.

Energy

In 2009, offshore oilfields consumed 30 seconds of total oil production. The project may rise to 34 seconds in 2025, because it is estimated that the recoverable regular oil in offshore oilfields accounts for a quarter of the problem.

Biotechnology

The global marketplace for biotech products and processes is currently can be calculated as US \$ 2.8 billion. By 2017, it will grow to approximately US \$ 4.6 billion. Marine biotechnology has the potential to solve some global problems, such as the properties of food, human health, energy security, and natural treatments.

Submarine Mining

The earth is preparing for the exploration and development of seabed and seabed mineral reserves. Due to the increase in product value, the industry is turning its attention to the potential wealth of tuberculosis and pebbles. Commercial benefits are considerable in the bud.

Shipping and port facilities

80% of the volume of world trade and more than 70% of the value is transported by sea and processed in ports around the world. For developing countries, these percentages are usually higher. Despite the economic recession, world free trade increased by 4% in 2010.

6. Blue Economy- An economic accelerator for Bangladesh

The ocean contributes more than 6 billion U.S. dollars to Bangladesh's economy every year and may generate more income. The total value added (GVA) of Bangladesh's marine economy in the 201415 fiscal year was US\$6.2 billion, accounting for 3.3% of the country's total GVA. 4,444 Tourism accounts for a quarter of the total, followed by marine fisheries and aquaculture with 22%, transportation 22%, and energy 19%. Bangladesh is estimated to have acquired 118,813 square kilometers of land in the Bay of Bengal. The resource zone includes the exclusive economic zone of 200 nautical miles and the seabed (continental shelf) resources of more than 354 nautical miles. It is estimated that Bangladesh's marine resources account for 81% of its land resources.

Under the jurisdiction of Bangladesh, the ocean contains rich and precious natural resources, including living and non-living things. Experts say that there are only 500 species of fish except for snails, shellfish, crabs, sharks, octopuses and other animals. It is estimated

that of the 8 million tons of available fish in the Bay of Bengal, Bangladesh only catches 700,000 tons of fish each year. In addition to fish and other living animals, Bangladesh may also have gas fields, and it is reported that Myanmar has discovered a large gas field in its waters. Experts believe that Bangladesh can extract resources worth about 12 billion rupees (US\$1.2 billion).

Here, the following figure shows the financial evaluation of major blue economics sectors in Bangladesh from 2010 to 2015 (million US\$).

| Economic Sector | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Marine fisheries | 843.75 | 949.48 | 1107.42 | 1231.06 | 1384.77 | 1475.66 |
| Oil | 21.90 | 23.84 | 26.82 | 28.77 | 29.35 | 34.05 |
| Gas | 948.35 | 956.30 | 1041.35 | 1127.73 | 1158.13 | 1,305.42 |
| Sea salt | 119.25 | 123.48 | 160.90 | 206.00 | 212.35 | 214.84 |
| Sand, Mineral and Coals | 735.18 | 944.39 | 1183.79 | 1452.46 | 1644.08 | 1893.14 |
| Water Transport | 1,215.14 | 1330.36 | 1450.21 | 1606.10 | 1682.31 | 1,816.67 |
| Trade & Shipping | 31,390.15 | 36,178.04 | 41,728.94 | 47,156.44 | 52,078.80 | 58,466.90 |

Source: Data adopted from Bangladesh Bureau of Statistics

According to experts, the silt in the adjacent seas of Bangladesh contains valuable minerals such as uranium and thorium, as well as a large amount of “clay”, which is the raw material for cement. Experts believe that there are 13 types of silt rich in heavy minerals in the adjacent seas of Bangladesh, such as ilmenite, garnet, colemanite, zircon, retyl and magnetite, which they claim are more valuable than gold. The sale of these minerals can bring billions of dollars in revenue to Bangladesh. According to reports, 75 outer islands in the country are available for local and foreign tourists. If Bangladesh can explore and develop these resources through the use of appropriate technologies, the Bangladeshi economy can quickly become an advanced economy. Although the Bangladeshi government has leased parts of the Bay of Bengal to foreign companies, it is believed that they have not used expensive modern machinery to extract resources. Bangladesh has one important factor to consider: as the country’s population increases, its dependence on marine resources will gradually exceed that on land. The resources include endless renewable reserves of wind and solar energy. It is worth mentioning that 15% of the protein comes from marine resources and is used by people around the world. Natural gas and oil account for 30% of marine resources, and more than 50% of the world’s magnesium is extracted from the ocean. You can even get life-saving medications with these resources.

In view of the possibility of acquiring riches from the sea, Bangladesh needs to formulate policies and laws to strengthen national institutions in order to provide solutions to implement its sustainable development goals, that is, the evaluation of the goals must go beyond the measurement to consider whether progress is fair, relevant and feasible. It should be noted that Bangladesh’s trade is mainly conducted by sea, and Bangladesh’s trade volume can reach US \$ 45 billion. It is estimated that by 2030, 5% of the country’s GDP can be derived

from marine resources. If resources are properly mined and used, Bangladesh will become a developed country by 2041. According to reports, Indonesia's national economy is highly dependent on its marine resources. According to reports, Australia receives US\$44 billion in income from the ocean.

In 2015, the United Nations General Assembly passed the sustainable development resolution proposed by Bangladesh. Its purpose is to achieve 17 points of economic growth by 2030, of which 14 points are viewed from the perspective of the blue economy. In the past few years, the blue economy has been the central theme of many international conferences. Rio+20 Ocean Conference and Bali (Indonesia) Food Security and Blue Economic Growth Conference can be used as examples. The strategy of international organizations such as the World Bank and the United Nations Environment Organization is to obtain marine resources.

Marine resources provide Bangladesh with a new window of opportunity. Increasing understanding of the ocean, including the effects of wind, waves, high and low tides, changes in temperature of organisms, and increased salinity of the sea surface, can lead to the production of renewable energy. Every year, the use of offshore wind energy has increased by 40%, and Bangladesh can use wind energy for various purposes to strengthen its economy.

To feed its population with marine resources, Bangladesh needs to cooperate with other countries to promote policies to protect the ocean from climate change, pollution and overfishing. We must reportedly protect marine ecosystems that are degrading at an unprecedented rate. This is not just a problem for Bangladesh. This problem should be solved in cooperation with other countries.

Many experts suggested that the government of Bangladesh should create an organization to obtain marine resources as soon as possible, because the opportunities to exploit these resources are limitless. Bangladesh can be inspired by the fact that the world economy is currently estimated at \$ 88 trillion, of which \$ 24 trillion comes from marine resources. By 2050, the world population is estimated to reach 900 crores (9 billion) and will depend primarily on marine resources for its livelihood. The number of people employed in fisheries and agriculture reached 1.7 crores.

7. Utilizing and protecting the 'Blue'

As the largest natural asset on the earth, the ocean accounts for about 99% of the total life on the earth and provides many benefits to mankind. The importance of the blue economy can be realized by going through the following points:

- The ocean is responsible for the oxygen in every breath we take. It provides 15% of human protein needs.
- Helps slow climate change by absorbing 30% of carbon dioxide emissions and 90% of excess heat captured by greenhouse gases.
- It is a highway for approximately 90% of the goods of international trade that pass through the shipping industry.

- If the ocean is a country, the ocean will rank seventh on the list of countries with the highest GDP in terms of economic activity of trillions of dollars per year.
- It is the source of hundreds of millions of jobs in fishing, aquaculture, shipping, tourism, energy production and other sectors.
- It is also the source of approximately 30% of the world's oil and gas resources, but if we are to successfully make the necessary transition to a low-carbon development path, this equation must change.
- Millions of the world's poorest people depend heavily on marine and coastal resources for their livelihoods.
- Small-scale fishing provides about half of the world's seafood, but employment opportunities per ton of fish are 44 times those of industrial fishing!

For the UN Development Program (UNDP), the Blue Economic Paradigm is a next natural step in carrying out general conceptualization and sustainable human development. It reflects our definition of long-term development of our long-term development. Simply putting it alone is the use of marine resources for human benefit in a way that persists the entire ocean resource base forever.

Rikui ecosystems can provide humanity to humanity alone if marine ecosystems are continuously maintained through effective marine and coastal governance. UNDP Ocean Governance Programs strive to achieve it from the local level through initiatives, such as a small standard program (GEF), global environmental facilities (GEF). Working with the International Maritime Organization (IMO) and GEF. The easier term has two factors for the blue economy.

The first thing must protect and restore the necessary places: existing marine resource bases that already provide food and livelihoods. Exhausted fish are allowed to recover, ultimately, it is possible to provide higher and sustainable fish yields and associated work. If coastal and restored ecosystems, such as coral and mangrove reefs, result in an increase in coastal protection and an increase in sea level increase. The coastal areas that reduce the contamination of the nutrients and eliminate the low oxygen fields can enjoy the increase in higher revenues of fish and tourism in order.

The opposite side of the blue economy can have an opportunity for reinforcement or new sustainable economic activities derived from the sea. Progress and perspectives of oceanic energy, such as the wind in the high seas and the energy of the tides are promising. Coastal carbon value Very effective strains such as mangroves and sea-grasses to carbon financial markets, or the value of "blue carbon" is growing with approximately 9% mixing since 1980. Now we supply almost half of the fish protein consumed Worldwide. However, it is impossible in terms of contamination and impact in many diversities of species. This has obtained an important blue economic opportunity to introduce more sustainable practices, such as integrated multi-ethnic aquaculture. With the support of GEF and UNDP, the sectors of IMO and global transport have taken an active procedure to minimize the contribution

to climate change with better energy efficiency. This makes the profitability of the sector, the true blue economic approach.

Challenges for Sustainable Development of Blue Economy

The role of marine assets in reducing economic conditions, dictatorship in food production, ensuring natural balance, facing the opposite impact of environmental corrections, etc. economic potential outcomes area unit unlimited. However with the chances and possible outcomes the difficulties conjointly companion. Future may well be the difficulties:

- The lack or serious lack of “appropriate policies” and “people/resources related to the ocean” of higher-level policies of relevant ministries/departments and similar national organizations/institutions is a major issue in the implementation of many issues related to capacity Obstacles to the development of different marine sectors in Bangladesh.
- We are obliged to guarantee our sovereignty over the entire coastal area and safeguard the safety of the commercial coastal areas of Asian countries.
- Authorities must control system and temperature changes caused by rising water levels and coral bleaching.
- Lack of knowledge, skilled manpower and technology to take full advantage of the blue economy, especially in the development of deep-sea fish and seabed resources.
- The friendly combination of lack of visionary political leadership, efficient bureaucracy, true entrepreneurial investor and innovative development thinker cannot succeed in this plan.
- We do not have a solid master plan that focuses on the entire coastal zone and targets participants outside the region.
- Build infrastructure respecting the marine environment for marine tourism.
- Maintain a good environment for investment in specific areas.
- Economic use of biodiversity.
- Protect mangroves and sea-grasses.
- Respond to environmental changes and manage carbon emissions.
- Prevent water acidification.
- Keep marine areas free from pollution

POLICY RECOMMENDATION

After coming to this far by analyzing the matters related to the topic, some policy recommendations may be provided which may help to turn the blue economy of Bangladesh into a sustainable one-

- Based on our non-appendix analysis of the policy decision in SBE Bangladesh, it is necessary to adopt a series of important initiatives in this context. Politics, the next strategy must act, we need the overall socioeconomic development of.
- Ministry of Fisheries, Ministry of Water Resources, Ministry of Planning, Ministry of Planning, Ministry of Construction, Ministry of Construction, Ministry of Industry, Ministry of Water Resources, Ministry of Construction, Ministry of Industry, Planning of the Initial Stages of Sales ministry.
- Diversified areas (marine biologists, fishing experts and fishing, maritime trade experts, economists, macroeconomics) Panel of experts, will be introduced to monitor and evaluate the SBE project. No policy / action has been taken without the approval of any expert panel.
- Bangladesh can take instructions or suggestions from one of the Blue Economic Success Record reports reported by UNEP (2015) for technical assistance and otherwise (2015). We can go for some exchange of technical knowledge and expert replacement collaboration.
- For a sustainable blue economy, several measures should be taken to reduce sea / ocean water contamination and other environmental degradation.
- Marine economic zones such as EPZ can be an excellent way to facilitate the blue economy. Especially for sightseeing, there is divine coastal place for tourists, such as Sandalban, Potuakhli, Kuakata, St. Martins and Moheskhali. By appropriate administration for maritime tourism, we can produce important income. SEZ can be organized through PPP to do sightseeing. If you have a site for hotels, motels, complex health care facilities, a special security body site, and a life-saving site, the benefits of the Tourism Division, as well as the national economy, the national economy.
- Economic activities of the Blue Economy through the participation of the local town of the coast band for the preservation of the health of the sea area, and the participation of the locals. The new economic agreement of the Blue Economy should not take people in the cost of cost. They know a sea much better than the other part of the country.
- Earth economies require an emphasis on the blue economy, since it may be possible to obtain foreign currency from new sources of natural gas, minerals, and employment opportunities, coastal and maritime tourism.
- Since the tourist industry has become a new source of national income, it has been necessary to develop the development of appropriate infrastructure to promote the coast and the sea.
- The Local Government, Commercial and Community Association (Public-Private Association) must be developed through business connectivity and integrated infrastructure.

- We must introduce waste recycling, incineration processes, gasification, bioreactor filling, anaerobic composting and digestion. In addition, it is necessary to implement an integrated waste management system (IWM) for this purpose.

CONCLUSION

The Bay of Bengal and coastal areas provide the backbone of huge resources, opening up new economic frontiers for Bangladesh. The various sectors of the blue economy provide development potential for achieving food security and economic development goals. At this moment, it can be concluded that Bangladesh needs to improve its understanding of the use of marine resources and bring socio-economic changes to the lives of the Bangladeshi people. The blue economy may be one of the best solutions for Bangladesh to achieve sustainable economic growth. In this study, we tried to describe the status quo of Bangladesh's blue economy. From the analysis, we found that marine production and aquaculture are increasing, which is a good sign. But our blue department was damaged by frequent flooding. We do not have well-trained, well-trained and well-educated human resources in different marine industries. The government should develop a future policy framework for the success of the blue economy. This framework can focus on structural collaboration; transforming research into products, a holistic approach to the blue economy; and inspiring and cultivating the younger generation.

In short, the challenges are huge, but the blue economy can bring considerable development and general welfare to the people of Bangladesh in the coming years and decades. Now is the time to gather data, political will, and financial resources to get the country on this path. With proper management, the country's oceans can create livelihoods for present and future generations without destroying the underwater natural capital that makes this contribution possible.

References

- Rashid, Harun ur, Barrister. (2018). Former Bangladeshi ambassador to the UN, Geneva, 14th May 2018, The Daily Star; 'Blue Economy - Are we ready for it?'
- Gallaudet, Tim, Ph.D. (2020). Retired Navy Rear Admiral, Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator, NOAA Press Release & Rachel Christopherson, 2nd June 2020; 'America's Blue Economy Worth Nearly \$373 Billion.'
- Roy, Aparna. (2019). 18th January 2019; 'Blue Economy in the Indian Ocean: Governance perspectives for sustainable development in the region.'
- Shamsuzzaman, Mostafa, Md., Mozumder Hoque Mojibul, Mohammad, Jannat, Sabrina Mitu, Ahamad, Abu Faisal, Bhyuian, Md. Sumon. (2020), 1st January 2020; 'The economic contribution of fish and fish trade in Bangladesh.'
- Patil, Pawan G, Virdin, John Colgan, Charles S. Hussain, M.G. Failler, Pierre Vegh, Tibor. (2015). 1st January 2015; 'Toward a Blue Economy: A Pathway for Sustainable Growth in Bangladesh.'
- Joyanta Bir, Md Rony Golder, Md. Fahad Al Zobayer, Kishur Kumar Das, Shanchita Zaman Chowdhury, Lopa Mudra Das, Partha Chandra Paul, 27th October 2020; A review on blue economy in Bangladesh: prospects and challenges.

- Sarker, Subrata, Ara Hussain, Firdaus, Assaduzzaman, Mohammad, Failler, Pierre (2019), October 2019; 'Blue Economy and Climate Change: Bangladesh Perspective'.
- CRI – BANGLADESH (The Centre for Research and Information); 'Blue Economy'.
- Investment Insights Centre- Investing, (2021). 25th March 2021; 'The blue economy in numbers'.
- Bhattar, Payal. WARTSILA, (2018). 10th October 2018; 'Navigating through China's Blue Economy.'
- National Oceanic and Atmospheric Administration (U.S. Department of Commerce), (2021), 19th January 2021; 'NOAA finalizes strategy to enhance growth of American Blue Economy.'
- Hudson, Andrew. (2018). Head of Water and Ocean Governance Programme, UNDP, November 26th November, 2018; 'Blue Economy: A Sustainable Ocean Economic Paradigm.'
- Tasneem, Farihah. (2019). 10th July, 2019; 'Blue Economy in Bangladesh: Paving The Way For Sustainable Development.'
- The Financial Express, (2019). (Bangladesh Bank Annual Report, July 2019-June 2020), 27th January, 2021; 'Blue economy of Bangladesh: Prospects and challenges.'
- The Daily Star (Star Business Report), (2019). 20th February 2019; Blue economy worth \$6.2bn.