

# Ocean Policy for Bangladesh – A Comprehensive Roadmap

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## **Abstract**

*As Bangladesh is on the course to achieve the objectives of Sustainable Development Goals, she needs to address a few significant ocean-related issues and challenges in order to support her political, economic and security interests. Today, the ocean is regarded as the last major frontier on earth for the exploration, exploitation and development of marine resources to sustain the prosperity of any maritime country and the people in future. The ratification of UNCLOS III has endowed Bangladesh with important rights and responsibilities in her maritime jurisdiction. The architect of the maritime vision of Bangladesh, Bangabandhu Sheikh Mujibur Rahman underscored the importance of endless sea resources and enacted the Territorial Waters and Maritime Zones Act 1974 to establish Bangladesh's sovereign rights over the sea area. The successful delimitation of maritime boundaries with the neighbouring countries in the recent years under the leadership of Honourable Prime Minister Sheikh Hasina, through the verdict of ITLOS and PCA, has opened a new vista of opportunities in the sector of blue economy. That necessitates the formulation of a comprehensive Ocean Policy which should be multi-disciplinary in approach, and in consultation with the government agencies, private maritime industries, the wider community and other stakeholders. The policy should aim to ensure the ecosystem integrity and the conservation of marine biological diversity. It should also indicate specific sectoral measures commensurate with the broader goals of the blue economy set by the government. The overall vision of the Ocean Policy should be to ensure a healthy sustainable ocean; nurtured, understood and harnessed wisely for the benefit of all to achieve vision 2021, vision 2041 and the Delta plan 2100. But truly speaking there is a scope for better managing our maritime interests and resources while the entire gamut of maritime activities needs to be well coordinated.*

**Key Words:** Ocean Policy, Marine Resources, Delta Plan.

## **Introduction**

To meet the new millennium demands, Bangladesh needs to address significant functional and regional Ocean Policy issues to support her political, economic and security interests. Many of these issues are inter-related and therefore, crafting an omnibus Ocean Policy, that effectively deals with her vital maritime interests in a coordinated fashion, poses significant policy challenge. Oceans are the greatest common heritage of mankind that exerts a profound

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influence on all forms of life on earth. Today oceans are regarded as the last major frontier on earth for the exploration and development of resources to sustain mankind in the future. The oceans are considered as unfailing sources of food, minerals, medicine and energy. Yet man has been able to touch only an infinitesimal part of these riches, the main drawback being his incomplete knowledge of the oceans. Sea Lines of Communication (SLOC) comprise the umbilical cord of a state's economy and the arteries of a region's economic health. The sea-based commerce offers a mood of great optimism; hence arises the need for formulating a strategic response towards flourishing the trade and shipping and safeguarding the SLOCs.

The oceans continue to provide a wealth of resources and have the potential to meet the growing demands of a burgeoning worldwide population. The acquisition and conservation of marine resources, therefore, promise to pose daunting policy challenges for Bangladesh. Currently the most commercially significant of these resources are the fishery resources in the Exclusive Economic Zone (EEZ) and petroleum and natural gas on the continental shelf. Approximately, 90% of living marine resources are harvested within 200 miles of EEZ. Marine exploration has revealed the offshore distribution of minerals of economic interest. Nodules of manganese oxide are found in the deeper part of the oceans in high seas, recognised as the common heritage of mankind. Apart from these polymetallic nodules, there are other non-living resources like salt, sulphur, gravel, sand, phosphate and hydrocarbons. It is estimated that the undiscovered oil potential of the continental shelf is more than 60% of the world's total known reserves.

Protection and preservation of the marine environment have become areas of increasing concern for all the Coastal States in formulating Ocean Policy. These environmental concerns were highlighted at the United Nations Conference on Environment and Development (UN CED) in Rio De Janeiro (1992 Earth Summit and other subsequent summits). It is estimated that most marine pollution comes from land-based sources, other major sources include shipping, dumping and offshore mineral production. Hence, this environmental issue deserves special attention in formulating an Ocean Policy.

The traditional perception of the inexhaustibility of marine resources has indeed altered. Maintaining the health and productive capacity of the oceans while seeking to meet the economic aspirations of the growing populations worldwide is a crying need of today. The greater awareness of the value of the ocean has brought about some remarkable changes in jurisdiction over maritime zones in the recent past. A new comprehensive ocean regime created by the 1982 United Nations Convention on Law of the Sea (UNCLOS III) has provided coastal nations with control over vast new ocean areas from where a country can extract resources and build national wealth. By the virtue of this convention, about 35% of water previously recognised as high seas has been enclosed as national zones. The convention established a comprehensive legal order for the ocean which would protect and preserve the marine environment, conserve living resources, facilitate international communication, promote efficient and peaceful uses and management of the oceans and advance the interests of the mankind as a whole. Basically, the UNCLOS III has stopped the so-called creeping and thickening jurisdiction of the Coastal States that used to be a trend in the post-World War II period of emerging nation States. The 1982 convention has formally entered into force on 16 November 1994 and ratified by Bangladesh in 2001. As a developing Littoral State,

Bangladesh has huge stakes in this convention and much of its contents should form the basis of her possible Ocean Policy.

But unfortunately, in the past, the sea used to attract little public interest and attention in Bangladesh. That is symptomatic of a large problem – that of building sufficient community and political awareness about the importance of the sea and marine industries. In fact, Bangladesh's vast oceanic front remained somewhat overlooked, while the country mostly remained “ocean blind”. But Bangladesh is endowed with the natural blessings of 710 km of coastline. Recently under the leadership of the government of Honourable Prime Minister Sheikh Hasina, Bangladesh has gained a maritime area of 1,18,813 sq.km through the successful and peaceful maritime boundary delimitation process by the international courts. The discovery of offshore hydrocarbon at the Sangu gas field, the sector added a new dimension to the country's economy. But the follow-up discoveries and extraction of energy from sea blocks are not encouraging. But there is evidence of the bright possibility of having huge energy and mineral resources under our sea areas waiting to be explored and exploited. Presently more than 90% trade of Bangladesh is sea-borne. It is therefore imperative for Bangladesh to adopt a “look south” policy by “caring, understanding and using the ocean wisely”. To date, marine and ocean affairs of Bangladesh have been characterised by either no policy at all or sectoral approaches by means of few isolated sub-policies. There has been no central body to control various maritime infrastructures, agencies and stakeholders. All these considerations justify the fundamental importance of an “Ocean Policy” to provide a comprehensive, national approach to the protection and management of maritime interests. The Ocean Policy of Bangladesh should set in place as the framework for integrated ecosystem-based planning and management of her marine jurisdictions and resources so that economic benefit exists with sensitive environmental care.

With this backdrop, the objective of this study is to provide a preliminary foundation for an integrated eco-system-based Ocean Policy for Bangladesh in order to ensure coordinated maritime planning and management by the government, marine industries, wider community and other key stakeholders.

### **Maritime Heritage of Bangladesh: An Overview**

Though Bangladesh itself is comparatively a young nation, its maritime heritage is deeply rooted to that of the subcontinent, which in turn can be traced back to the Vedic times. There are enough indications of our seafaring traditions and bondage with the ocean. The mariners of Bengal like their counterparts in the Indian Subcontinent had profound knowledge in the art of seafaring, navigation, communication and shipbuilding. A large number of people living in Bangladesh coastal areas bear the testimony of her close attachment to the sea. Like Columbus and Magellan, Bangladesh also has dream man Chand Saudagar, frequently used in the literature.

Chattogram was the major port of Bengal ever since the Arabs and Yemenis used to come to India for trade since 2nd century BC. The travellers like Ibn Battuta and Barbarossa mentioned the shipbuilding industries of Dhaka, Sonargaon and Chattogram in a high note. The local shipbuilders used to build ships for the Dutch, British, Germans and even the Turks. The image of the Frigate “Deutsch Land” built in Chattogram in 1818 is still preserved in the

Bremerhaven Ship Building Museum of Germany. During the 16th century, the Portuguese named Chattogram port as “Porte Grande” as she offered easy access and safe anchorage to large ships.

### **Maritime Jurisdiction of Bangladesh and UNCLOS III**

The historical trend of attempting to place ocean areas under the State control culminated in 1494 in the Treaty of Tordesillas, approved by Pope Alexander VI when papal Bull divided the oceans between Spain and Portugal. However, the majority of the states realised that they were benefiting more from the free movement of commerce allowed by the “Freedom of the High Seas” or the “Mare Liberum” postulated by the Dutch lawyer Hugo Grotius in 1608.

**Development of UNCLOS III:** The historic Truman proclamation in 1945 on the continental shelf and fisheries conservation is normally assumed to be the starting point of the contemporary development to the law of the sea. Later on, the creation of the United Nations gave the international community a suitable forum for addressing the contentious and conflicting maritime issues in a comprehensive and coordinated manner. After two partially successful attempts by UNCLOS I of 1958 and UNCLOS II of 1960, the UNCLOS III was opened for signature on 10 December 1982 in Jamaica. It took further 12 Years mainly for technical and legal reason for the Convention to come into force on 16 November 1994.

**The Implication for Ocean Policy:** UNCLOS III is in fact, a blend of treaty laws and customary laws. The Convention codified existing practice and established new norms of international law in many areas of Ocean Policy. It sets maximum limits for the different sea areas and clarifies the jurisdictional powers and resource rights of coastal and other states in the areas. The UNCLOS III can be regarded as a legal document which defines legal rights, obligations and responsibilities. Alternatively, it may be considered as a political statement outlining the ways in which the seas may be used and managed in the contemporary world. Some commentators have described it as a combined political and legal blueprint “a constitution of the oceans”. Given these implications, the planning and management of ocean call for a coordinated Ocean Policy that treats the UNCLOS III as a beginning, not an end.

**Territorial Water and Maritime Zones Act 1974:** Bangladesh is, in fact, one of the first countries in the world to enact a law for maritime management. The Father of the Nation Bangabandhu Sheikh Mujibur Rahman enacted Territorial Water and Maritime Zones Act 1974. The Act laid down rules regarding the delineation of maritime zones from the Baseline like Internal Water, Territorial Water, Economic Zone (now EEZ), Continental Shelf and Conservation Zones. Later vide the Territorial Waters and Maritime Zones Rules 1977 the government laid down further rules regarding the conduct of persons and vessels in Bangladesh maritime zones, customs and fiscal laws, reserved area and production of energy from the tide, current, wind and sun.

### **Growing Maritime Interests of Bangladesh**

The maritime interest and concerns of Bangladesh emanate from the necessity to generate more wealth for uplifting the living standard of her impoverished millions and the imperative to enhance her national security. Following are some of the basic maritime interests which

must be preserved while formulating national Ocean Policy:

**a. Maritime Security:** Security here should be understood in terms of military, economic and environmental dimensions including confidence-building measures, the safety of SLOC, prevention and management of natural disasters and the management of marine pollution.

**b. Exploration and Exploitation of Resources:** The Bay of Bengal is rich in various renewable resources like fish stock, which not only meets our food demands but also earns a lot of foreign currency for the cash-starved country. The contribution of fishery production was near about 105 million tons which are around 66% of the world total fisheries production in 2012. Moreover, the government is also doing its best to implement its decisions to explore gas and oil found in the offshore areas.

**c. Foreign Investment:** Bangladesh government is making all-out efforts to attract foreign investors in exploring oil and gas in its offshore zones. The government policy is to involve the private sector in the development of hydrocarbon resources through the participation of international oil companies under the Production Sharing Contract (PSC). Moreover, there is a surge of foreign investment in recent years in the sectors like port, offshore LNG platforms, coastal energy hubs and Special Economic Zones

**d. Ensuring Order at Sea:** Maritime crimes include poaching, sea piracy, illegal migration, narco-terrorism, smuggling, etc. and shipping accidents like fire, collision, adverse weather, etc. should be decreased. Bangladesh's interest in preventing and minimising these disorders at sea is too obvious.

**e. Marine Scientific Research:** The safe and economical use of the oceans and the preservation of the same are dependent in every respect on marine scientific research. This will include oceanographic, hydrographic, seismic, geological and geomorphological research including remote sensing. The government has recently established the Bangladesh Oceanographic Research Institute (BORI) for maritime research.

**f. Coastal Zone Development:** The coastal zone development is an important interest for Bangladesh as regards marine tourism, forestry, maintaining bio-diversity, establishing marine parks and also for aquaculture, hatchery, etc.

**g. Trade and Economic Cooperation:** It is Bangladesh's interest to deepen her relationship with other regional countries not only bilaterally but also in a collective framework by enhancing trade and economic cooperation. In this respect, the government has emphasised on the need for expanded connectivity with the regional countries.

### Concept and Need for Ocean Policy

As the sea would become a bone of contention, it would also offer enormous promises and potential benefits. But in Bangladesh, certain maritime activities are not coordinated whereas other maritime sectors are totally ignored. Various maritime industries are neither centrally controlled nor their performances supervised. Bangladesh is a biologically diverse nation and her maritime environment is a home to spectacular arrays of species, some of which are unique. Her marine area is dynamic in nature and experiences continuous variability of physical, chemical and biological properties ranging from days to decades. But her ocean systems are under increasing

pressure from many uses such as fisheries, shipping, petroleum activities and tourism. Action now is required to put in place a comprehensive system for integrated ocean planning and management which will reduce the risk of a progressive decline and irreversible damage to her marine systems.

Certainly, it may be necessary to provide positive direction to the way in which Bangladesh views the use of the oceans and to the way she regulates those uses both within Bangladesh and perhaps more importantly, in the international milieu. As a nation, Bangladesh must increasingly confront issues requiring the setting of priorities among competing uses and of balancing the distribution of ocean benefits between current and future generations. In the maritime sector, certain individual industries, agencies or maritime infrastructure carry out their responsibilities quite well, but there is hardly any coordination among them or with the government.

A need, therefore, exists for policies that are based on equity and stewardship of the public trust; policies that take into account the functioning of the ocean and its various subsystems; and policies that achieve balance and set priorities that ultimately will determine the success or failure of any ocean management programmes. Clearly, national policy formulation and decision making in ocean development and management raise complex issues, cover a variety of rights and concomitant duties, span a range of governmental and international activity and encompass many diverse disciplines. The approach of maritime issues and the development of a maritime culture has to be inter-disciplinary with historians, lawyers, economists and political scientists working with engineers, biologists, chemists and physicists on common ocean interests. Above all, an Ocean Policy should outline a broad range of commitments that will translate the policy into a programme of activities to help us to achieve blue economy objectives. Building on existing effective sectoral and jurisdictional mechanisms, such coordinated policy should promote ecologically sustainable development of resources, encouragement of internationally competitive marine industries, while protecting the marine biological diversity.

### **Ocean Policy Issues and Challenges**

The use of ocean resources is expected to grow. A primary goal of this policy is, therefore, to ensure that Bangladesh has the management tools in place to avoid potential conflict between ocean users. Ocean Policy would neither be solely an environment protection policy nor solely an economic development policy. It would be a policy for the ecologically sustainable development of the oceanic economy. The policy should establish the broad principles and management approaches necessary to achieve the goal.

Since Bangladesh continues to use the 1982 UNCLOS-III as the foundation for her Ocean Policy, the Convention will serve as a prism that will dispense Ocean Policy into various levels of action and various functional and zonal issue areas. Major Ocean Policy issues that must be coordinated include navigation and overflight, protection and preservation of the marine environment, ocean resources acquisition and conservation, marine scientific research, prevention of piracy, immigration monitoring and control, naval arms control, etc.

All the aforesaid ocean issues have been powerful constituencies at the international, national and local levels, making the crafting of a balanced and effective Ocean Policy as a special challenge.



## Vision and Goals of Ocean Policy

Fundamentally, a National Ocean Policy must be a statement of a national vision, a series of goals, principles, strategies and policy guidance. Hence, the Ocean Policy should provide a framework that would outline a broad range of commitments that will translate the policy into a programme of positive actions. The policy should be targeted to give the following early tangible results:

- a. The maritime jurisdictions of Bangladesh should be regionalised, based on the large marine ecosystem for the purpose of integrated ocean planning and management.
- b. Bangladesh should promote and facilitate the development of marine industries as core components of her economy and drivers of employment growth.
- c. Bangladesh should develop a Marine Science and Technology plan, which will improve monitoring and understanding of the global ocean process that influences her marine and territorial environment.

**The Vision of Ocean Policy:** The vision for Ocean Policy of Bangladesh should be to ensure a healthy sustainable ocean; nurtured, understood and harnessed wisely for the benefit of present and future generations.

**The Goal for Ocean Policy:** The Ocean Policy should have the following broad goals:

- a. To exercise and protect the rights and jurisdiction of Bangladesh over offshore areas and resources.
- b. To understand and protect marine biological diversity, the ocean environment and its resources and ensure that ocean uses are ecologically sustainable.
- c. To establish integrated ocean planning and management arrangements.
- d. To accommodate community needs and aspirations.
- e. To promote public awareness and understanding so that people become ocean-minded instead of ocean-blind.

## Integrated Ocean Planning: Key Initial Actions

Bangladesh's ocean ecosystem and marine biological diversity are core national assets. If the use of them is well managed, they can meet a broad range of economic, social and cultural aspirations. The collapse of a number of major ecosystems and fisheries resources in other regions like Southern Bluefin Tuna, Southern Sharks etc. with the associated economic damage and social dislocation, is a stark warning of the vulnerability of marine systems.

**Conservation of Marine Biological Diversity:** The main objective of the Ocean Policy should be to ensure continuing marine ecosystem health and conservation of marine biological diversity, which refers to the variety of living organisms in the estuaries and ocean, their genes and the ecosystem of which they form a part. Tropical hot-humid climate with mild winter, abundance of monsoon rains, surface water and the alluvial rich soils make Bangladesh an ideal place for a high degree of biodiversity. It is said that one square kilometre of the mangrove forests in Bangladesh contains greater biodiversity than that of many countries taken together.

**Regional Marine Planning:** Integrated and ecosystem-based planning and management should be implemented through the introduction of a major regional marine planning process. For each marine region the plan will broadly identify:

- a. Ocean resources, economic and other opportunities.
- b. Current and emerging threats to ecosystem health.
- c. The community and sectoral interests.
- d. Priorities for the industry and economic development of the region.

**Maintenance of Ecosystem Integrity:** The vision and goals for Bangladesh Ocean Policy should be developed around a national strategy for ecologically sustainable development and multiple ocean uses. The ecological links between the land and ocean, as well as within and between ocean ecosystems, must be taken into account in ocean planning and management. All human uses of the ocean result in a change in ocean ecosystems and there are direct and indirect impacts from a range of land based activities. Hence, the main element in the decision about the maintenance of ecosystem integrity is establishing what the ecosystem characteristics are and understanding the scale and levels of natural variability. The main ecosystem at risk includes mangrove swamps, coral reefs, turtle nurseries, prawn fishing areas and areas used in the production of algae.

**Multiple Ocean Use:** The priority aim of ocean use management includes the reconciliation of conflicting uses. Manning and management for multiple ocean uses involve the integrated allocation of resource access and should also ensure that such decisions are equitable, objective and transparent.

**Marine Protected Areas:** A Marine protected area is an area at sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources managed through legal or other effective means. In coasts and estuaries, there is severe competition between human activities and the intricate web of marine life. The delicate mangrove swamps in the Sundarbans are part of a web marine life. While the coral reefs of the St Martin's Island are even more fragile having rich habitats for myriad life forms. This system also provides for the recreational, aesthetic, cultural and economic needs of the people. Bangladesh is a party to the Convention of the world cultural and natural heritage. The Great Barrier Reef of Australia has been referred to as the largest living feature on Earth and was clearly visible from the Moon. It actually consists of 2500 individual reefs and includes some 400 species of coral, 1500 species of fish, making it the world's largest coral reef. Before conservation measures were taken, the Reefs was threatened by recreation, localised populations and other dangers. The Barrier Reef Marine Park is being developed in sections in order to control the impact of human and recreational activities. There are preservation zones designed to conserve ecosystem and protect turtle and bird nesting sites. In scientific research zones, recreation is forbidden. Bangladesh may take the conservation measures of the Great Barrier Reef as a guideline for her marine protected areas.

**Conservation of Marine Species and Habitats:** Conserving the biological structure of the oceans has become one of the leading issues in ocean use management. The numerous endangered species must be encompassed within management schemes if they are to survive.



Many species have reached critical levels due to overexploitation, damage to or pollution of habitats, competition from other species and the introduction of alien species. The preliminary survey carried out in 1996-97 found abundant coral resources presence of economically important macro-invertebrates (e.g. sponges, gastropods, sea urchins, sea cucumbers) and other rare endangered species. The survey indicated eight species of Tuna and Skipjack and a number of potential species of Mackerels, Shark, Ray, Sardines, Anchovies, Shad, etc. in Bangladesh water. There is a need, therefore, to recognise in legislation “conservation dependent” species and vulnerable ecological communities.

### **Institutional Arrangement for Implementation of Ocean Policy**

All the Maritime infrastructures, agencies and stakeholders are directly or indirectly supporting our maritime economy, in turn the national economy. The maritime infrastructure consists of regulatory bodies, private /public sector commercial operators, repair facilities, education, training and research institutes.

**Regulatory Bodies:** Numbers of Ministries are concerned with various maritime affairs. They are Ministry of Ports, Shipping & IWT; Ministry of Fisheries & Livestock; Ministry of Energy, Petroleum & Mineral Resources; Ministry of Forest and Environment; Ministry of Defence; Ministry of Home Affairs; Ministry of Industries; Ministry of Foreign Affairs (Maritime Affairs Unit) and Ministry of Finance. Recently the government has established the Blue Economy Cell to coordinate the blue economic activities of different ministries.

**Shipping Regulatory Organs:** The regulatory organs under the Ministry of Shipping are, Directorate General of Shipping, Mercantile Marine Department and Bangladesh Inland Water Transport Authority.

**Commercial Operators:** The government-owned public sector commercial operators are Bangladesh Shipping Corporation (BSC), Chattogram, Mongla and Payra Port Authority, Bangladesh Inland Water Transport Corporation (BIWTC) and Bangladesh Fisheries Development Corporation (BFDC). Notable private commercial operators are private shipping and fishing companies, international gas exploration companies and a limited number of tourism and aquaculture companies.

**Shipbuilding and Repair Facilities:** The major shipbuilding and repair facilities are Chattogram Dry Dock Limited (CDDL), Khulna Shipyard Limited (KSY), Dockyard and Engineering Works Narayanganj, BN Dockyard and other BIWTC dockyards. In private sectors numbers of shipyards are contributing significantly in shipbuilding.

**Maritime Education and Training:** Following universities, institutes and academies impart training and carry out research in maritime fields:

- a. Bangabandhu Sheikh Mujibur Rahman Maritime University, Bangladesh.
- b. Bangladesh Marine Academy.
- c. Bangladesh Naval Academy.
- d. Marine Fisheries Academy
- e. National Maritime Institute (NMI).

- f. Deck Personnel Training Centre (DPTC)
- g. Bangladesh Institute of Marine Technology (BIMT).
- h. Some Private Marine Academies/Institutes.
- i. Bangladesh Oceanographic Research Institute (BORI)

In addition, some public and private universities conduct some related programmes.

**Other Ancillary Organisation:** Other ancillary organisations in support of maritime activities are Space Research and Remote sensing Organisation (SPARRSO), Bangladesh Meteorological Department, Department of Hydrography and Survey of Bangladesh.

**Enforcing Agencies:** The relevant agencies responsible for enforcement of various maritime regulations, monitoring and surveillance are Bangladesh Navy, Bangladesh Air Force, Bangladesh Coastguard Force and Sea Customs.

### **Institutional Elements for Formulation and Implementation of Ocean Policy**

While the government should take the lead in developing Ocean Policy, an effective policy must be shaped by the nation as a whole. The policy should be developed with considerable consultation sharing ideas with the government, the wider community, conservation groups industry and other resource users.

There is no easy, obvious or consensus solution to achieving a coherent and coordinated Ocean Policy. Moreover, the approach may vary from country to country. For example, France is one of the very few countries who has completely re-organised its maritime administration to form a Ministry of the Sea. However, in order to coordinate all the maritime activities and implementation of the Ocean Policy, possible institutional arrangements may be as follows:

**a. Department of Ocean Development:** In line with our neighbouring country India, Department of Ocean Development (DOD) may be created under the direct control of the Prime Minister's office, providing it considerable importance and prestige. Their activities could mainly involve marine research and development agenda and act as a watchdog for the government's implementation arrangements.

**b. National Ocean Ministerial Board:** This board could include various key ministries concern with ocean affairs and oversee the implementation, prioritisation, budgetary allocation, regional cooperation and further development of Ocean Policy.

**c. National Ocean Advisory Committee:** The National Ocean Advisory Committee may be comprised of members with non-government interests, such as industry, science and conservation, selected for expertise in ocean issues. Their main function could be to advise the Ministerial board on cross-sectoral and cross-jurisdictional ocean issues and be a forum for exchanging views between ocean sectors.

**d. National Ocean Office:** A National Ocean Office may be established to provide secretarial technical support and assist the board in implementation and further development of Ocean Policy. The office could be constituted of governments officers from various ocean-related agencies and act as the main administrative coordination point between the government organisations and other commercial operators.

**e. Regional Marine Plan Steering Committees:** Regional Marine Plan Steering Committees, including key non-government and government stakeholders, may be established who will oversee the development of regional marine plans, working closely with the National Oceans Office.

### Specific Sectoral Measures

Putting Bangladesh's Ocean Policy into actions requires a partnership between all spheres of government, private sectors, scientific and wider communities. The policy itself should be owned by all citizens. The Ocean Policy should also provide guidelines for specific sectoral measures as follows:

- a. Fisheries
- b. Aquaculture and sea farming
- c. Offshore hydrocarbon and minerals
- d. Marine environment and pollution
- e. Shipping and trade
- f. Marine engineering and shipbuilding
- g. Port Development
- h. Alternative energy source
- i. Marine and ecotourism
- j. National heritage and marine parks
- k. Marine spatial planning

### Caring and Understanding the Oceans

**People and the Oceans:** The main challenges of the Ocean Policy will be to improve the management and technical skills of the marine managers and develop the community understanding of and involvement in marine related issues. Following should be ensured:

- a. Professional and skill development of the marine managers.
- b. Community participation in ocean-related decision-making.
- c. Generate Public awareness and understanding of the role of the Ocean Policy.
- d. Develop training courses, seminars, symposium, etc. on integrated marine management.

**Understanding the Oceans:** The Ocean Policy should highlight the need for greater knowledge and scientific understanding of the marine ecosystem and resources to underpin their conservation and sustainable use. The government should formulate a "Marine Science and Technology Plan" in order to characterise and improve our understanding of the coastal zones, marine jurisdictions, the oceans' interaction with the atmosphere, their biological resources, ecological systems and their underlying geological features. The Ocean Policy should highlight on the following in this regard: Marine Scientific Research, Physical, Chemical and Geological Attributes, Weather and Climate Services and Oceanographic Research. It is, therefore, evident that there is a strong need for ensuring an appropriate scope

for maritime higher education and research. In this view, importance and role of BSMRMU and other universities will always be augmented in future.

### **Protecting National Interests**

**Defence Tasks:** Oceans are critical to our security. If we are to continue benefiting from the oceans, access and freedom of use must be assured. The strategic policy should advance the need for strategic control, to ensure that potential aggressors are not able to cross our marine jurisdictions. It should be the tasks of the armed forces, particularly the Bangladesh Navy (BN) to safeguard these areas, to control maritime approaches, to exercise and protect the sovereignty and sovereign rights. BN should:

- a. Conduct sea exercise programme to maintain readiness and ensure its sustainability in operations.
- b. Conduct bilateral and multilateral exercises with regional nations to enhance interoperability and to demonstrate our interests in our commitment to the region.
- c. Make a cost-effective investment in the defensive and offensive capabilities of our present fleet. Consolidate towards developing into a credible three dimensional Navy.

**Surveillance and Enforcement:** Surveillance is required to provide information on illegal activities in our vast marine jurisdictions. It must also be coupled with the capacity for effective enforcement. BN is the major contributor to national maritime surveillance effort while Bangladesh Coastguard Force is entrusted with the task of coastal law enforcement. The government should:

- a. Review and rationalise the capacity for surveillance and enforcement, including reform of legislation relating to enforcement.
- b. Further develop marine intelligence network.
- c. Develop Bangladesh Coastguard Force in taking up the task of coastal surveillance.
- d. Develop an integrated system to provide continuous, real-time, all-weather detection and identification of intruding ships and aircraft.

**Search and Rescue:** With the globalisation of maritime trade and commerce, the safety of the seagoing vessels, fishing fleet and all the seafarers has become a matter of paramount importance. The 1979 International Convention on Maritime Search and Rescue, 1958 Geneva High Sea Convention, 1974 SOLAS Convention and UNCLOS III all require the coastal States to develop National Search and Rescue (SAR) organisation. As per provisional Maritime SAR Plan of IMO, Bangladesh has been delineated with a Maritime Search and Rescue Region (MSRR) where she has to coordinate all SAR efforts for any distressed vessel. Bangladesh also needs to establish an effective Maritime Rescue Coordination Centre (MRCC) to coordinate SAR activities, presently, though DG shipping is the National Coordinating Agency for SAR, her credibility in performing such tasks always remains in question due to her lack of resources and personnel. BN has been entrusted to carry out SAR activities since 1975 and she is presumably in the best position to carry out such coordination task. Following responses are necessary:

- a. The government should immediately set up an effective Maritime SAR organisation to make our MSRR safe and acceptable for international shipping. The government may enact appropriate laws in this regard in line with 1979 SAR Convention.
- b. Arrangement for Compulsory Ship Reporting System (CSRS). Differential Global Positioning System (DGPS) along the coasts, GMDSS Facilities, etc. should be made for enhancing our security and safety measures at sea.
- c. BN may be designated as National SAR Coordinator for the effective monitoring and coordination of SAR activities.

### **Ocean Policy in Regional and International Context**

The world's oceans are interconnected; many of the management concerns are part of a larger regional or global concern that can only be addressed through international cooperation. Ocean affairs are rightly a central part of the broader political and strategic relations in the region. In promoting cooperation, Bangladesh should firstly identify areas of common interest for the sustainable ocean management. The government should take early action in the following areas:

- a. Conservation of Maritime Resources:** Bangladesh should develop a regional cooperative management regime for straddling and highly migratory fish stocks with a view to ensuring the conservation of living resources.
- b. Maritime Safety, SAR and Pollution:** Bangladesh should put into effect bilateral/multilateral arrangement for quick regional response in the prevention of maritime pollution, ensuring standard material state of ships through common port state control measures and effective regional SAR organisation.
- c. Regional Marine Protected Areas:** Bangladesh should cooperate in developing regional marine protected areas. e.g. jointly managing Sundarbans World Heritage Site.
- d. Ocean Observing System:** We should actively participate in regional programmes advancing knowledge of the dynamic marine environment, climate prediction and the establishment of a coordinated ocean observing system.
- e. Crime Prevention:** Joint patrolling, surveillance and exchange of intelligence in the Bay of Bengal would better ensure the prevention of maritime crimes.
- f. Hydrographic and Seismic Survey:** Joint hydrography and seismic survey can determine the actual reserve of hydrocarbon in the bay and updating our charts and nautical publications.
- g. Marine Scientific Research:** Regional marine scientific research programme in the field of oceanography, renewable and non-renewable energy resources, weather and climatology, etc. is clearly a major area of regional cooperation.
- h. Education, Training and Information Exchange:** There is a need for arranging education and training on general maritime management in each other's marine training institutes. Moreover, data collection and exchange, information networks and internet websites will be particularly useful for developing Integrated Coastal Zone and Ocean

Management Strategies at the regional level. In this regard, BSMRMU may undertake joint education and research programmes with other Maritime related universities of the region.

## **Conclusion**

The sea is a major source of food and the sea lanes are the lifelines of all the economics which are heavily dependent on unimpeded access to raw materials, markets and investment opportunities throughout the world. During times of peace, the SLOCs serve as commercial trade routes but during the war, these routes are considered strategic pathways to keep the war machines fully oiled. Throughout the world, there is a significant movement of populations and economic activities to the coastal areas, which have made exploitation of oceanic resources and preservation of the marine environment an increasing priority for all the nations. Man–Land ratio of Bangladesh being the lowest in the world, she can no longer sustain pressures for food, shelter, energy and other necessary commodities. Hence, Bangladesh is bound to show a positive response to her adjacent ocean which is rich in huge untapped living and non-living resources. Bangladesh has to generate maritime awareness among the people and guide them to look south towards the vital maritime interests at stake. Those interests include not only maritime security, law and order at sea, they also cover the exploration and exploitation of marine resources, ensuring foreign investment, marine scientific research and many more. Moreover, the victory over delimitation of the maritime boundary has opened up a new opportunity of maritime jurisdiction for Bangladesh along with rights and responsibilities.

But presently maritime interests and resources of Bangladesh are not well managed, neither the maritime activities well-coordinated. There is a lot of duplication of efforts among the maritime agencies while few sectors are totally ignored. That necessitates the formulation of an overarching Ocean Policy that pertains to the entire assembly of ocean uses and resources and the long term public interest in the ocean as a whole. Such policy should be multi-disciplinary in approach prepared in consultation with the government agencies, private maritime industries, the wider community and other stakeholders. Through the development of Ocean Policy, the government would join in a partnership with the Bangladeshi community to pursue the vision of ensuring a healthy sustainable ocean: nurtured, understood and harnessed wisely for the benefit of all, now and in the future.

As a key initial action, the policy should aim to achieve an integrated eco-system based ocean planning in order to ensure the ecosystem integrity and the conservation of marine biological diversity. While promoting the principle of multiple ocean uses, the policy should afford to divide coastal areas for regional marine planning in order to ensure community and sectoral interests. It should also provide protection to the vulnerable marine species and delineate marine protected areas. In order to implement the Ocean Policy and coordinate the efforts of maritime infrastructure, the institutional arrangement proposes for a National Ocean Ministerial Board who would oversee the implementation of the policy and coordinate budgetary matters. A National Ocean Advisory Committee comprised of members of government and private sectors should advise on the secretarial help. There might also be a Regional Marine Plan Steering Committee to oversee the development of the Regional Marine Planning while the Department of Ocean Development would primarily be an ocean research organ.



The Ocean Policy should also indicate specific sectoral measures commensurate with the broader goals set by the government. These measures should be pursued by all concerned maritime agencies and stakeholders across ocean sectors consistent with the planning and management principles. Hence all the sectors and industries would have to provide positive responses against the challenge. But the main challenge of the Ocean Policy will be to improve the managerial and technical skill of the people to develop community understanding and awareness of the general mass. Finally, the policy should also indicate the particular tasks of the Bangladesh Navy, Bangladesh Coastguard Force and other enforcing agencies in protecting our vital maritime interests. Since Ocean Policy has a strong international connotation, guidelines should also be given in identifying the common areas for regional cooperation with our friendly neighbours. As a matter of fact, the time is right for our government, to be truly forward-looking and put an Ocean Policy in place before the problems of the oceans become intractable, before missed opportunities become serious costs to the national economy.

### **Recommendations**

It is recommended that:

- a. The Government should hold a national Ocean Forum with wider participation of public and private maritime sectors, researchers and key stakeholders to promote the importance of formulating an Ocean Policy.
- b. Efforts may be made to generate public opinion in favour of the Ocean Policy by growing the maritime awareness of the common people.
- c. The government should review the existing shipping and fisheries laws and enact new laws on marine pollution prevention and conservation of eco-system integrity and biological diversity.
- d. Surveillance and enforcement capabilities of the BN and Bangladesh Coast Guard Force may be enhanced for better protection of our maritime interests.
- e. All out efforts may be made for promoting regional cooperation in various sectors of Ocean Policy and marine management.
- f. The Government may consider to establish the Institutional Elements proposed in this paper for the formulation and implementation of Ocean Policy.

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