

MARINE SPATIAL PLANNING: BANGLADESH PERSPECTIVE

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Abstract

The concept of Blue Economy has triggered the coastal states to explore their marine resources from their own maritime boundaries. Bangladesh has to be one step advance in the competition as its land based resources are very limited in comparison to its huge population. It must be very critical for Bangladesh if it does not have a well-planned policy adopted in considering both the economic and environmental aspects. MSP can only be the process for Bangladesh to go ahead for consumption of marine resources without jeopardy to marine environment. The existing national policies, plans and legislations for ocean governance are very scattered in nature which needs to be an integrated and uniform legal stand. The study analysis those legal loopholes and recommends for an effective MSP in the Bay of Bengal.

Key words

Marine Spatial Planning (MSP), Marine Ecosystem, Marine Resources, Marine Biodiversity, Coastal Management, Climate change and Blue Economy

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INTRODUCTION

Blue economy has become an important wheel of the global trade and commerce in the 21st century (Shahnaz et al, 2015). The maritime nations are now more concerned about their utmost use of marine resources within their own maritime boundaries in ocean. Oceans cover 72% of the surface of our blue planet and constitute more than 95% of the biosphere. Life originated in the oceans, and they continue to support all life today by generating oxygen, absorbing carbon dioxide, recycling nutrients and regulating global climate and temperature. Oceans provide a substantial portion of the global population with food and livelihoods and are the means of transport for 80% of global trade (Alam, 2014). Exploration and exploiting of marine resources from ocean has emerged many concepts in the arena of resource management and uses. Marine Spatial Planning (MSP) is one of them. MSP is a process to manage and use blue resource (marine resources) by a placed based integrated plan among various entities of a coastal state for sustainable use as well as sustainable development. It needs an integrated policy, legal framework, and management in a coastal country. MSP has a great importance for Bangladesh as it has a wider maritime area in the Bay of Bengal especially after wining maritime boundary disputes with two neighboring countries, India and Myanmar recently. Bangladesh needs to run for an effective MSP to ensure a stabilized and sustainable blue economy through policy and legal protection despite of a number of challenges (Datta, 2014).

OBJECTIVE AND SCOPE OF THIS STUDY

The main objective of this study is to show necessity of an integrated legislation to adopt MSP for Bangladesh to ensure sustainable use of marine resources without jeopardizing protection of Marine Environment. Moreover, the additional objective is to find out the relevant institutions and stakeholders to be united for action plan of MSP in Bangladesh; and to suggest some recommendation for an effective MSP. The study analyzes the existing international and national principles, policies, Action plans and legislations to satisfy the objective of the study. However, the study does not include details discussion on all aspects and approaches of MSP. MSP from management and cost effective perspective is out of this study.

METHODOLOGY AND DATA SOURCES OF THE STUDY

The study is a qualitative research based on both of primary and secondary sources. International and National principles, policies, plans, and legislations have been used as the primary sources. However, a number of books, journals, Articles, Newspapers, official website, desk report, conducted survey; maps and research paper have been used as the secondary sources of the study.

IMPORTANCE OF THE STUDY

Bangladesh country office (planning commission) has submitted its 7th fifth year plan (2016-2020) for Ocean and River management to the Food and Agriculture Organization of the United Nations (FAO) very recently. But the plan says only for Marine Spatial Planning but it does not prescribe any policy or action planning for adopting an integrated legislation to initiate MSP for Bangladesh (Hossain et al, 2010). Bangladesh has participated in 26th session of the Asia and Pacific Commission on Agricultural Statistics and presented country paper on Fisheries Statistics in Bangladesh: Issues, Challenges and Plans very recently (The Asia and Pacific Commission on Agricultural Statistics, 2016). The county report acknowledges the necessity of adopting MSP in the Bay of Bengal for sustainable use of marine fisheries. However, the paper does not provide the way out adopting MSP therein. Therefore, this research would be a significant contribution to this gap of knowledge for Bangladesh.

WHAT IS MARINE SPATIAL PLANNING?

Generally, Marine spatial planning (MSP) means the planning by a coastal state to explore and use marine resources within its maritime boundary by making a skates out or map based policy. This is a process that brings together multiple users of the ocean including energy, industry, government, conservation and recreation to make informed and coordinated decisions about how to use marine resources sustainably (Wikipedia). MSP relates to an improved planning and management system for protecting marine ecosystem health and service, which emphasizes a balance between economic development and marine conservation. In fact, MSP is a significant departure from sector by sector or use by sue approaches; rather, it is an integrated that allows planners to consider various uses oceans at the same time by way of providing accurate information and maps about the geography, environmental impacts and existing uses of the ocean spaces (Wikipedia).

According to legal aspects, Marine spatial planning (MSP) is a framework which provides a means for improving decision-making as it relates to the use of marine resources and space (GEF, 2012). MSP is not an end in itself nor is it a specific policy rather it is a planning framework that focuses on the unique and dynamic spatial planning requirements in marine ecosystems to sustain the goods and services society needs or desires from these environments over time (CBD COP Decision, 2012).

However, MSP is not a map of the ocean; it is imperative for the policy makers to understand that it is in fact an analytical process involving spatial information often resulting in maps created as and when required for visualizing objects or processes in space and time (Hossain, 2014). MSP deals not only with spatial objects (in geographic space), in reality MSP quite often deals with elements in the temporal space (e.g., seasons, years, decades) and agent space (e.g., human users, natural forces, biological agents, etc.) as well, and their interactions with each other (Hossain, 2014).

OBJECTS OF MSP

MSP provides an important framework for assessing biodiversity and ecosystem service, and for implementing potential response (Dauvere, 2008). The main object of MSP is to explore maritime resources without causing any damage to the marine environment. But the issue is debatable one as to the focal point of MSP; either exploration of marine natural resources or protection of marine environment. There are some views of eminent scholars and researchers as to the object of MSP as follows:

- It is a process designed for planners and policy makers allowing them to make better and more informed decisions about the use and management of the seas (IOC/UNESCO, 2014).
- The purpose of this initiative is to help countries to implement ecosystem-based management by finding space for biodiversity conservation and sustainable economic development in marine areas (UNESCO, 2016).
- Marine spatial planning is a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process (UNESCO, 2016).
- MSP provides decision makers with information about the geography, environment, natural phenomena, current and future uses, etc. for better planning of existing and future utilization of resources and space.
- MSP brings all spaces, resources, agencies, uses, and times together in one analytical framework to resolve conflicts. MSP will help to manage oceans facing growing demands as smoothly as achievable. In other words, MSP helps us finding a balance between nature conservation objectives and resource use goals in a more sustainable way (Balance, 2008).

LEGAL AND INSTITUTIONAL FRAMEWORK FOR MSP

International Conventions

International legal instruments are the key structural components in a wider international regulatory regime (Karim, 2015). There are a number of international conventions and declarations which either directly or indirectly provide legal stands for MSP. Some of these are as follows:

United Nations Convention on the Law of the Sea (UNCLOS): UNCLOS III, was adopted in 1982 after a long time observations and modifications to overcome the earlier loopholes. As a result the convention is known as the "constitution for the seas". The Convention makes all coastal states collectively responsible for the sustainable use of the oceans, and makes accountable to protect their maritime areas. It is one of the most uniform and comprehensive instrument of ocean governance among international treaties. Articles 61-68 expressly provides for conservation of living resources and other species at the Exclusive Economic Zone. Articles 116-120 says about the conservation and management of living resources at the High Sea. Part XII, Articles 192-237 provide for general and specific obligations of member state to protect marine environment. The Convention is legally binding instrument and Bangladesh is state party to the Convention.

UN Fish Stock Agreement, 1995: The FAO Code of Conduct for Responsible Fisheries, 1995 is a non-binding instrument which covers almost all aspects of fisheries for developing and implementing their own national fisheries policies as per the Code. Later on, UN Fish Stock Agreement, 1995 was adopted which came into effect in 2001. This is a legally binding agreement providing the framework for long-term conservation and sustainable management of straddling and highly migratory fishes in the sea. This Code is seen as a groundbreaker to global rule of fisheries management. Bangladesh is a signatory to this treaty (Duck, 2012).

The Ramsar Convention, 1971: The Convention on Wetlands of International Importance, especially as Waterfowl Habitat, 1971, which is popularly known as the Ramsar Convention was adopted with a view to ensuring conservation and sustainable use of the world's wetlands having ecological, economic, socio-cultural and, scientific and recreational importance. Bangladesh, is signatory to the Ramsar Convention, has three Ramsar recognized sites- Hakaluki haor, Tanguar haor and a part of the Sundarbans.

Convention on Biological Diversity, 1992: The Convention on Biological Diversity (CBD), often touted as Biodiversity Convention, was agreed upon in the conference of world leaders in Rio de Janeiro, Brazil in 1992 also known as Earth Summit. It has three goals, namely (a) conservation of biological diversity, (b) sustainable use, and (c) fair and equitable sharing of benefits arising from biological resources. Bangladesh has ratified to the convention and therefore mandated to act on the principles and issues of this convention (Duck, 2012).

National Policies, Acts, Rules and Plans

Maritime and Coastal Zone: The Territorial Waters and Maritime Zones Act, 1974 is the first and the only instrument to provide for declaration of zones and bringing areas in the Bay of Bengal within the country's territorial jurisdiction according to provisions of international agreements and laws. The Act empowers with the legal means of establishing its sovereign and other rights on respective zones in the sea. The next most important legal basis for a concerted development and management strategy of the maritime areas is the combination of the Coastal Zone Policy, 2005 (CZPo) and the Coastal Development Strategy, 2006 (Duck, 2012).

Fisheries: The National Fisheries Policy, that came into being in 1998 calls for comprehensive stock assessments, fishery education, research, and joint-venture initiatives with foreign and offshore entrepreneurs for exploitation, conservation, and management of marine fisheries sustainably. The first law enacted in independent Bangladesh was The Protection and Conservation of Fish (Amendment) Ordinance, 1982 which guides that the exploitation, conservation and management of marine fisheries be achieved through comprehensive stock assessments, fishery education, research, and joint-venture initiatives with foreign and offshore entrepreneurs. The Ordinance is followed by a Rule. The Protection and Conservation of Fish (Amendment) Rules come in every 2 to 3 years, which reflects the necessity and actions taken to adjust and modify the regulatory mechanisms in order to enforce the provision of the Law (APC, 2016). Another policy is the National Shrimp Policy, 2014, which is broadly based on many principles of the Fish Policy '98, while recognizing shrimps as valuable fishery resources. There are two more instruments namely, the Fish Hatchery Act, 2010 and the Fish Hatchery Rules, 2012 which lay out provisions and rules for the establishment, licensing, and operation of fish and shrimp hatcheries, regulation of brood collection zones, and adherence to environmental requirements.

Energy and mineral resources: the Petroleum Act, 1934 and the Regulation of Mines and Oil Fields and Mineral Development (Government Control) Act, 1948 are two earlier documents for regulating energy and mineral resources in Bangladesh. Later on, the Bangladesh Petroleum Act, 1974, and the National Energy Policy, 2004 were enacted to provide a basis for planning and organizing exploration, exploitation, development, and production of petroleum its maritime territory.

Environmental protection: There are a number of scattered policy and legislation to deal with environmental aspects in Bangladesh. The legal framework for environmental protection are-

- Bangladesh Environment Conservation Act, 1995
- Bangladesh Environment Conservation Rules, 1997, and subsequent amendments in 2000 and 2001,
- Bangladesh Environment Conservation (Amendment) Act, 2000,
- Bangladesh Environment Conservation (Amendment) Act, 2002,
- National River Protection Commission Act, 2013,
- National Action Plan for Adaptation (NAPA) to Climate Change,
- Bangladesh National Conservation Strategy 2005.

Water resource management: For water resources management, there are three principal instruments in Bangladesh. These are; the National Water Policy 1999, National Water Management Plan 2001 and Bangladesh Water Act, 2013.

Shipping, trade & commerce: The Ports Act, 1908 is the primary legislation for functioning and controlling Port handling in Bangladesh. Moreover, The Protection of Ports (Special Measures) Act, 1948 was enacted to add some safety and security measures in operation and maintenance of port activities. Chittagong and Mongla ports, two existing ports, are governed by their respective laws –

The Chittagong Port Authority Ordinance, 1976 (amended in 1995), and The Mongla Port Authority Ordinance, 1976 (amended in 1995). The Paora Port Authority Act, 2013 has accelerate the establishment of the third port in Bangladesh.

In addition, The Bangladesh Shipping Corporation Order, 1972 establishes the Bangladesh Shipping Corporation for operating and developing of maritime transport services. The Bangladesh Merchant Shipping Ordinance, 1983 is a comprehensive law determining and controlling various operational aspects of the maritime transport sector for sea going vessels while Inland Water Transport Authority Ordinance, 1958 provides for the establishment of such a public authority for the development, maintenance and control of inland water transport. Furthermore, International trade and commerce are regulated by the Imports and Exports (Control) Act, 1950 and subsequent orders released under the purview of this Law. e.g. Import Policy Orders, 2012-2015.

Tourism: The Bangladesh Parjatan (Tourism) Corporation Order, 1972 is the pioneer instrument to provide for the tourism sector in Bangladesh. The Order empowered to form the Bangladesh Parjatan Corporation for promotion for operating and developing tourism in the country. Moreover, The National Tourism Policy, 2009 is a holistic approach of Bangladesh government to improve the tourism sector with a view to facilitate new employment for unemployed people. The Bangladesh Tourism Board Act, 2010 was passed in the next year to establish a supervisory board and The Bangladesh Tourism Protected Areas and Special Tourism Zone Act, 2010 along with The Bangladesh Tourism Protected Areas and Special Tourism Zone Rules, 2011 provide for declaring and managing potential areas exclusively for tourism.

Scientific research: The Fisheries Research Institute Ordinance, 1984 allowed the establishment of a research institute to coordinate fisheries research in the country. The achievements and practical outcomes from this institute in 30 years of its founding may be brought into question and critically evaluated, but the necessity of an organization of its kind cannot be undermined (Duck, 2012). Only recently, a national oceanic research organization has been founded for spearheading all kinds of oceanographic research including biological, physical, chemical and geological nature. This would be the lead ocean research body of the country (Duck, R. W, 2012).

Defense and Law enforcement: Bangladesh Navy was formed to maintain sovereignty and territorial integrity of our oceanic area under The Navy Ordinance, 1961, and by its amendments, e.g., The Navy (Amendment) Ordinance, 1977. The Bangladesh Coast Guard has been recently formed under the provisions of The Coast Guard Act, 1994 to ensure regular patrolling the maritime boundary of Bangladesh.

PROCESS OF MARINE SPATIAL PLANNING

Besides a set of people capable of designing and running the MSP framework and analyses, it requires current information on various oceanic phenomena, marine resources, their utilization and users, managers and agencies, their interactions and responses to different patterns of consumption, seasonality to adopt MsP. It certainly requires approximate projections of future uses of these resources, potential users, anticipated change in any management practices, etc. It may also require some past information; for example, which resources went extinct, and under what circumstances, etc. The necessary data and information may be collected by different government agencies, NGOs, universities, research centers and also spread across scientific literature. Much of this information may be already known, some may have to be generated, whereas some may never be economically or technically feasible to investigate. Lack of some information will introduce some levels of uncertainties in MSP outputs, but use of available information would certainly make the planning process better than doing it without any scientific analysis (Coast net Conference, 2003).

The scholars and experts on MSP prescribe ten stages to adopt an effective MSP. The stages are-

Step 1 Identifying relevant institution and establishing authority.

Step 2 Obtaining financial supports.

Step 3 Pre-planning process.

Step 4 Organizing participation of the stakeholder.

Step 5 Defining and analyzing existing conditions.

Step 6 Defining and analyzing future conditions.

Step 7 Developing and approving the spatial management plan.

Step 8 Implementing and enforcing the spatial management plan.

Step 9 Monitoring and evaluating performance.

Step 10 adapting the marine spatial management process.

MARINE SPATIAL PLANNING PROCESS FOR BANGLADESH

Integrated policy and strategy, interagency coordination and marine spatial planning:

In order for an MSP to be formulated a coastal state must have a defined maritime boundary: the boundary enables a coastal state to exercise its sovereign rights and jurisdiction over the delimited maritime spaces and resources therein (The Nature Conservancy, 2009). Thus the settlement of any maritime disputes between littoral states is a vital precondition for MSP. An analysis shows that the implementation process of any MSP depends on some requisites; adoption and implementation of adequate legal and policy bases; coordination and integration of complex political and economic elements, including national, regional and global institutions; improving measures for avoiding and settling marine environment disputes; preventing and mitigating environmental damages ; strengthening and developing marine environmental law and compliance; and over all, ensuring community participation (Hasan, 2013).

The first pre-requisite for adopting MSP is a demarcated maritime boundary. Bangladesh has a large demarcated maritime boundary in the Bay of Bengal after two legal victories with two neighboring countries; India and Myanmar. Therefore, the first condition for MSP is satisfied for Bangladesh.

The second condition for MSP is adoption and implementation of adequate legal and policy bases where Bangladesh is yet to do. There are some of plans and legislations in Bangladesh, but those are scattered and based on the sector by sector or department by department. Neither an integrated policy nor legislation exists in Bangladesh to adopt MSP in the Bay of Bengal.

The third pre-requisite for MSP is integration and coordination which is totally absent in Bangladesh. No existing policy and legislation has initiated such an afford to bring all the relevant departments under an umbrella for adopting MSP. Sector by sector planning is deeply rooted in all plan and policy of Bangladesh. Moreover, there are random changes and modifications in the plan by government make the plan just as a live devil of corruption and mismanagement. There has no interaction among the related organs or departments of the government. Oil in your own machine policy is a prime barrier for Bangladesh to adopt MSP with an integrated planning. There are great lack of integration and coordination among laws, agencies and field level operations. Furthermore, as the concept of Blue economy and Marine Spatial Planning are new; even Bangladesh has not identified the concerned departments to bring under integrated afford for MSP.

The fourth condition for MSP is availability of data and information as to maritime resources. No doubt, Bangladesh has very limited information about the available resources in the Bay of Bengal. Moreover, the institutions related to the research and higher studies on maritime affairs are either new or with limited activities which are not quite enough to get adequate information for MSP.

Recommendations to adopt MSP for Bangladesh

Establishment of special authority for MSP: The government should establish an authorized body under the auspices of the Prime Minister's office vested with the duty to take the active step to adopt MSP in the Bay of Bengal. The persons who have expertise on related issues should be appointed to the body. The authority should bring experts from multiple departments related with MSP. The authority under the Prime Minister's Office may ensure proper coordination and integration among different ministries and line agencies. Considering the highly multidimensional nature of coastal and ocean affairs, no specialized ministry/agency should be designated as the lead agency for MSP.

Integrated policy: The body established by the government should initiate an cohesive policy rather sector by sector plan for MSP. The Plan should be integrated and multi-objective, strategic and future-oriented, and continuous and adaptive. The plan and framework should be developed and run by a special task force at the highest level of the government. All relevant contents from a number of existing national policies, action plans and legislations should be compressed into one uniform legal framework. In this case, the stakeholder needs a special research team to analyze and scrutinize the existing MSP of the world like European Union and Great Barrier Reef of Australia.

Coordination among multi-sectored bodies: All the relevant departments and organs should be brought to the single table for discussion and taking a final decision towards MSP in the Bay of Bengal. It may occupy sharing experience from MSP in other countries like Australia and Japan. MSP without a holistic and coordinated approach can never be functional (UNESCO, 2006). This research finds the following departments should be coordinated to adopt an effective MSP in the Bay of Bengal.

Shipping	Department of shipping and Port Authorities
Trade	Ministry of Commerce, EPB, NBR, Investment Board
Fisheries and aquaculture	Department of Fisheries, Fisheries research Institute
Energy and Mining	Department of Energy, Petro Bangla
Communication	Authority of Submarine cables, landing stations and distribution
Environment and conservation	Department of Environment
Geomorphology	Authority of Water Resources Management
Oceanography	National Oceanography Research Institute
Hydrography Meteorology	Department of Meteorology, SPARRSO
Climatology and Climate Change	SPARRSO, NGOs working for Climate change
Hazards and disasters	Ministry of Disaster Management, SPARRSO
Tourism	Department of Tourism
Military	Navy and Coast Guard

Strong legislative protection and framework: Legislation is the protector and controller of human action. There should be a good legislation which reflects the all aspects of MSP in a codified form. Scattered forms of legislations are not appropriate for an integrated policy like MSP. An experience may be gathered from the Great Barrier Reef Marine Park Act 1975. The Act has created a glaring example for successful MSP all over the world.

Improving institutional capacity for marine research: A state establishes universities and institutions for research output that can be applied for the common benefit of the nation. There must have a strong leanzo between state governing departments with the universities and institutions. The universities and institutions should be responsible for maritime research with a view to ensuring much efficient and effective plan and policy. Funding should be increased for research on marine affairs. Researchers should be brought from related multiple sectors but under a common platform. In that case Bangabandhu Sheikh Mujibur Rahman Maritime University Bangladesh may play the role of common platform for all relevant research cells.

CONCLUSION

The history of MSP developments around the world at present is that most successful MSP have been those that are national initiatives. Given the uncertain relations and cooperation between the littoral states of the Bay of Bengal, it would be wise for Bangladesh to undertake national initiatives as a first step towards MSP (Hassan, 2016). Australia has shown tremendous success in governing the Great Barrier Reef under the Great Barrier Reef Marine Park Act, 1975. As a coastal state, Bangladesh must drive for marine resources in the Bay of Bengal under motivation of the Blue economy concept. The exploration of marine resources and marine environment are reciprocal. Where there is exploration there is a possibility of pollution of the marine environment. If the government fails to adopt an effective MSP for Bangladesh it has to suffer a lot in both of achieving sustainable development as well as the protection of marine environment.

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