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Marine Spatial Planning: Implementation of Plans and Strategies in Perspective of Bangladesh

Mohammad Saydul Islam Sarkar[1,*], Teng Xin[2], Deng Yuncheng[3]

Abstract

Marine spatial planning (MSP) is an internationally recognized planning tool used in coastal countries to utilize information about a particular maritime zone, its resources, and its uses and to develop a comprehensive ocean management system. It is a pragmatic and integrated process to protect the environment when human operations are held at spatial and temporal levels and increase sustainability in marine resources' uses. After two victories with two neighboring countries, India and Myanmar, Bangladesh obtained a significantly defined maritime boundary in the Bay of Bengal. Nevertheless, Bangladesh faced several challenges in the management and sustainable use of the resources in this maritime territory in recent years. For proper governance and fruitful management of the resources of the marine environment, Bangladesh needs to develop policies and frameworks associated with MSP. This article provides a brief snapshot of the implementation of plans and strategies of MSP in the context of Bangladesh. Until today, very few policies and legislation have hardly been initiated to bring all the relevant departments under an umbrella for adopting MSP. The government should establish an authorized body to adopt MSP in the Bay of Bengal. The body should initiate integrated policy, coordinate with multi-sectored bodies, and make legislative solid protection and framework. Therefore, effective MSP is required for Bangladesh to achieve sustainable development and protect the marine environment.

Keywords: Marine spatial planning, sustainable development, blue economy, Bay of Bengal, Bangladesh

INTRODUCTION

An ocean area with numerous activities and little planning can be a busy, sometimes even hazardous, location. Marine spatial planning (MSP) is a globally recognized planning tool that utilizes information about a particular ocean area, including its natural resources and human uses, to develop a comprehensive ocean management system [1]. About fort years ago, the idea of MSP was introduced in the 1980s to render planning concepts for the conservation and protection of ocean space [2]. It is an empirical and integrated process to understand human operations in maritime space at spatial and temporal levels, providing protection for the environment and increasing sustainability in the use of marine resources [3, 4]. The MSP provides an illustration of the ongoing activities and how much space and time are occupied by them in the marine environment. United Nations Educational, Scientific and Cultural Organization (UNESCO) defines MSP as 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 are usually specified through a political process." A designated ocean space is usually divided into

***Author for Correspondence**
Mohammad Saydul Islam Sarkar
E-mail: saydul76@gmail.com

[1]Assistant Professor, Department of Oceanography, University of Chittagong, Chittagong, Bangladesh
[2]Professor, National Ocean Technology Center, Tianjin, China
[3]Island Research Center, of the Ministry of Natural Resources, P.R. China

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defined zones that prescribe permitted uses and restrictions. More than 60 countries rely on MSP to manage their ocean economies [5].

One of the biggest procurements for Bangladesh after independence in 1971 was a maritime victory with Myanmar and India. This has opened many promising windows to gain financial and economic benefits by harnessing marine resources, which will support the government in achieving its goal of being a developed country by 2041 [6, 7]. After the victory, several challenges in management and sustainable use of resources in maritime territories have emerged in recent years. For proper governance and fruitful management of marine environment resources, Bangladesh needs to develop policies and frameworks at the local and national levels. Thus, MSP implementation is an indispensable factor in the maritime jurisdiction of Bangladesh. This review article aims to provide a brief snapshot of the implementation of plans and strategies for MSP in Bangladesh.

Marine Spatial Planning

The key principles of MSP include reliance on the best available science, participatory process, cross-sector planning, transparent decision-making, and consideration of economic and environmental objectives. Reliance on the best available science allows a government to base planning decisions on actual data on the state of ocean resources, including fish populations and ecological conditions, as well as surrounding environmental and climate conditions. This helps determine which human activities can be allowed in which zones, and which restrictions must be applied [8, 9].

A participatory process encourages the inclusion of stakeholders in planning decisions, and transparent decision-making helps ensure government accountability. Cross-sector planning is also necessary, as MSP involves a range of sectors with marine interests, such as fisheries, conservation, shipping, and tourism, and coordination of efforts is needed to achieve an appropriate balance between economic and environmental goals [10, 11, 12].

For MSP to be effective and enforceable and thus able to achieve its defined objectives, it must be incorporated into a country's legislative framework. This critical step institutionalizes the process, ensures that all parties are bound by a lawfully adopted plan (and subject to consequences for violations), provides for consistency in plan implementation and revisions, and places the approval of the national government on sensible, science-based ocean management [13].

Marine Spatial Planning Around the Globe

Over the past 15 years, MSP has gained considerable attention worldwide. Various countries/territories have started to use MSP to achieve sustainable use (Figure 1), including the goal of developing a “Blue Economy,” and biodiversity conservation in ocean and coastal areas [14]. About 70 countries/territories now have MSP initiatives, ranging from early stages (new authority, new funding arrangements) to plan revisions and adaptation (Belgium, Netherlands, Norway, China, and Australia) (MSP around the world—MSPGLOBAL2030, n.d.) [15].

Initially, the concept of MSP and one of its primary tools, ocean zoning, was stimulated by international and national governments and non-governmental interests in developing marine protected areas (MPAs). More recently, attention has been placed on planning and managing multiple uses of marine space, particularly in areas where conflicts are already well-known and specified. In various countries/territories, MSP concepts are used as a first step to make ecosystem-based management reality [16].

OBJECTIVES OF MSP

The MSP provides an important framework for assessing biodiversity and ecosystem services and for implementing potential responses [17]. The main objective of MSP is to explore maritime resources without causing any damage to the marine environment [18, 19]. However, the focal point of the MSP

is debatable: either exploration of marine natural resources or protection of the marine environment. Some views of eminent scholars and researchers regarding the object of MSP are as follows:

- It is a process designed for planners and policymakers, allowing them to make better and more informed decisions about the use and management of the sea [20].
- The purpose of this initiative is to help countries implement ecosystem-based management by finding space for biodiversity conservation and sustainable economic development in marine areas [21].
- 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 specified through a political process [21].
- The MSP provides decision-makers with information about geography, environment, natural phenomena, current and future uses, etc., for better planning of existing and future utilization of resources and space [22].

COMMON DENOMINATORS FOR MSP

Marine spatial planning has several common denominators that influence and are relevant to the entire process (Figure 2) [23].

PROCESS OF MARINE SPATIAL PLANNING

In addition to 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, users, managers, and agencies, their interactions and responses to different patterns of consumption, and seasonality to adopt MSP. It certainly requires approximate projections of future uses of these resources, potential users, anticipated changes in any management practices, etc. It may also require some past information, for example, which resources went extinct, and under what circumstances. The necessary data and information may be collected by different government agencies, NGOs, universities, and research centers and spread across the scientific literature. Much of this information may already be known; some may have to be generated, whereas others may never be economically or technically feasible to investigate. A lack of information will introduce some levels of uncertainty in MSP outputs, but the use of available information would certainly make the planning process better than doing it without any scientific analysis (Coast Net Conference, 2003) [24].

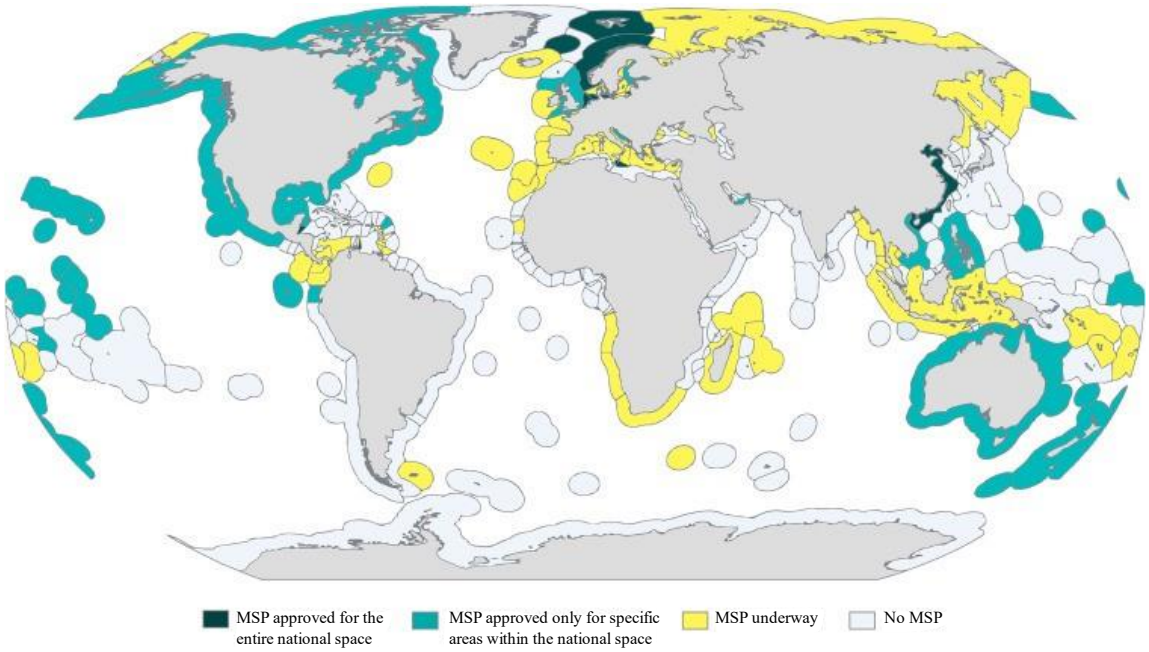

Figure 1. Global map of MSP [25].

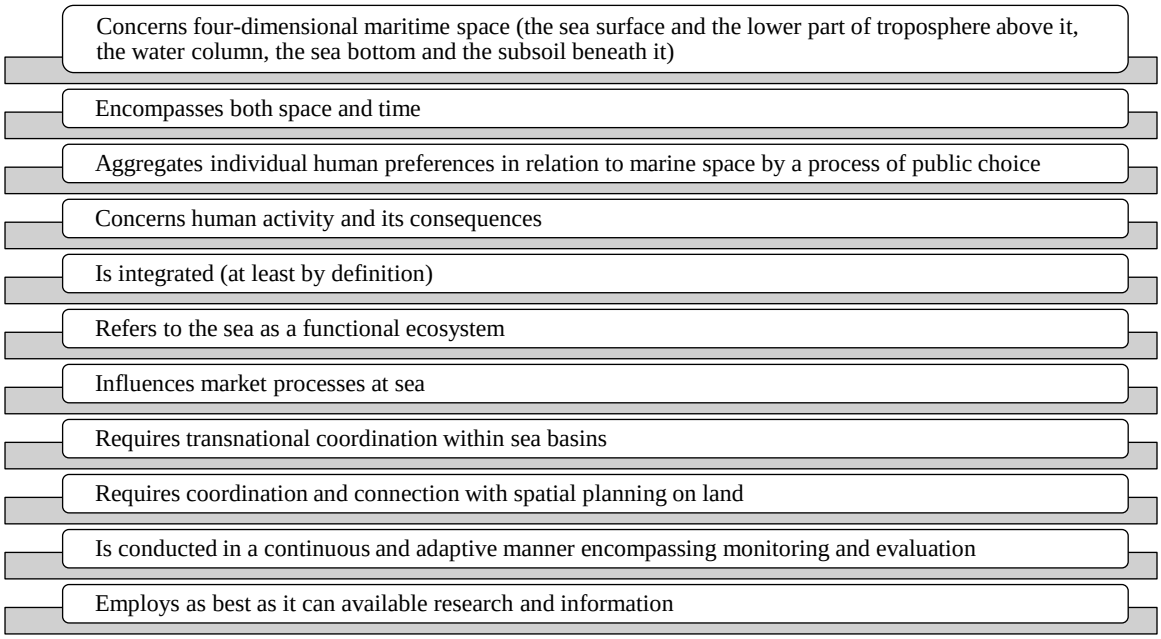

Figure 2. Common denominators for MSP.

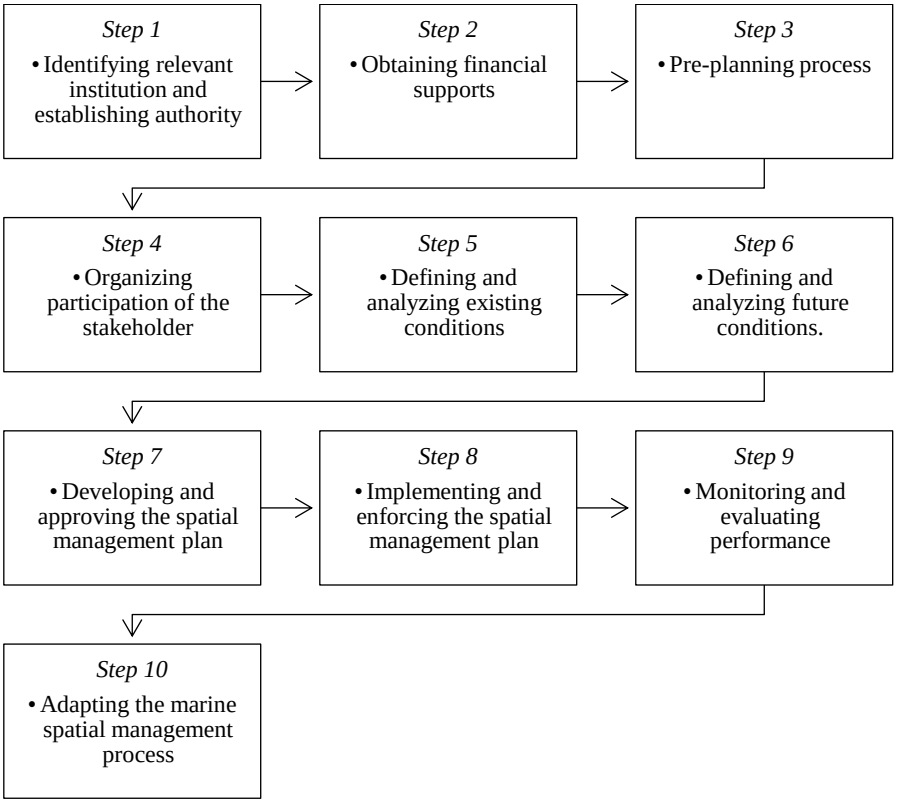

Figure 3. Marine spatial planning process for Bangladesh.

Scholars and experts on MSP prescribe ten stages to adopt an effective MSP. These stages are illustrated in Figure 3.

Integrated Policy and Strategy, Interagency Coordination, and Marine Spatial Planning

For an MSP to be formulated, a coastal state must have a defined maritime boundary, which enables it to exercise its sovereign rights and jurisdiction over the delimited maritime spaces and resources

therein [26]. Thus, the settlement of 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 to avoid and settle marine environment disputes; preventing and mitigating environmental damages; strengthening and developing marine environmental law and compliance; and, overall, ensuring community participation [27]. The first prerequisite for adopting an MSP is demarcated maritime boundaries. 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 in Bangladesh. The second condition for MSP is the adoption and implementation of adequate legal and policy bases, which Bangladesh has yet to do. There are some plans and legislation in Bangladesh, but these are scattered and based on 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 prerequisite for MSP is integration and coordination, which is completely absent in Bangladesh [28].

No existing policy or legislation has initiated such an ability to bring all relevant departments under an umbrella to adopt MSP. Sector-by-sector planning is deeply rooted in all plans and policies of Bangladesh. Moreover, there are random changes and modifications in the plan by the government to make the plan a live devil of corruption and mismanagement. There were no interactions between the related organs or departments of the government. Oil in its machine policy is a prime barrier for Bangladesh to adopt MSP with integrated planning. There is a significant lack of integration and coordination among laws, agencies, and field-level operations.

Furthermore, as the concepts of blue economy and Marine Spatial Planning are new, Bangladesh has not identified the departments concerned with bringing under-integrated afford for MSP. The fourth condition for MSP is the availability of data and information on maritime resources. Bangladesh has very limited information about the available resources in the Bay of Bengal [29]. Moreover, the institutions related to research and higher studies on maritime affairs are either new or have limited activities that are not sufficient to obtain 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. People with expertise in related issues should be appointed to the body. The authority should bring experts from multiple departments related to MSP. The authority of 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 a cohesive policy rather than a sector-by-sector plan for MSP. The plan should be integrated, multi-objective, strategic, future-oriented, 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 content from a number of existing national policies, action plans, and legislation should be compressed into one uniform legal framework. In this case, the stakeholder needs a special research team to analyze and scrutinize the existing MSPs of the world, such as the European Union and the Great Barrier Reef of Australia.

Coordination Among Multi-Sectored Bodies

All relevant departments and organs should be brought to a single table for discussion and to make a final decision regarding MSP in the Bay of Bengal. It may occupy sharing experiences from MSP in other countries, such as Australia and Japan. Without a holistic and coordinated approach, MSP can never be functional [21]. This research found that the following departments should be coordinated to adopt an effective MSP in the Bay of Bengal.

Strong Legislative Protection and Framework

Legislation is the protector and controller of human actions. Good legislation should reflect all aspects of MSP in a codified form. Scattered forms of legislation are not appropriate for an integrated policy, such as MSP. Experience may be gathered from the Great Barrier Reef Marine Park Act of 1975. The Act has created a glaring example of successful MSP worldwide [30]. 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 [31]. There must be strong liaison between state-governing departments, universities, and institutions. Universities and institutions should be responsible for maritime research to ensure more efficient and effective plans and policies. Funding for research on marine affairs should be increased. Researchers should be brought from multiple related sectors but on a common platform. In this case, Bangabandhu Sheikh Mujibur Rahman Maritime University Bangladesh may play the role of a common platform for all relevant research cells.

CONCLUSION

The history of MSP developments around the world at present is that the most successful MSPs have been 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. Australia has shown tremendous success in governing the Great Barrier Reef under the Great Barrier Reef Marine Park Act of 1975. As a coastal state, Bangladesh must drive marine resources in the Bay of Bengal under the motivation of the blue economy concept. The exploration of marine resources and marine environments is reciprocal. Where there is exploration, there is a possibility of pollution in the marine environment. If the government fails to adopt an effective MSP for Bangladesh, it will suffer significantly in achieving sustainable development and protection of the marine environment.

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