

MARINE SPATIAL PLANNING IN VIETNAM: APPROACH AND CHALLENGES

**NGUYEN KY PHUNG¹, NGUYEN NGOC TRINH²,
TRAN THI KIM TRAN³**

ABSTRACT

Sustainable development of the coastal economy and local livelihoods are essential in the management of conflicting issues such as fisheries resource deterioration, environmental degradation, and the over exploitation of coastal and marine resources. A marine spatial planning offers strategic solutions for balancing the encouragement of the coastal economic sector with environmental protection and social welfare.

The paper discusses an approach in Vietnam as well as identifies the challenges that Vietnam Government is facing. The results this paper carries out will serve for sustainable development, using marine ecosystems and protecting natural resources.

1. INTRODUCTION

Marine resources are “common property resources” with open or free access to users. It provide many critically important value, including the benefits of the ecological goods and services that the oceans provide to humans as well as all living organisms on the planet (Clement Lewsey et al., 2010; Millenium Ecosystem Assessment, 2005).

Since marine resources are limited both in space and size, economic development has been devastating to marine biodiversity in many places. Essentially, increased development pressures on the marine environment, have led to two types of conflict. First, this multitude of human activities (among economic sectors) has resulted in a substantial and largely irreversible loss and damage to the diversity of life in marine and coastal areas (use-environment conflicts, e.g., habitat loss). Second, not all uses are compatible with one another and are competing for ocean space or have adverse effects on each other (use-use conflicts, between). (Scottish Environment LINK, 2006, Ehler, C. et al., 2006).

As a result, the traditional sectoral approach to natural resource and environmental management (focused on single sectors) has been recognized

¹ Institute for Computational Science and Technology, Quang Trung Software, District 12, HCM City, Vietnam

Email: kyphungng@gmail.com

^{2,3} Ho Chi Minh University of Natural Resources and Environment, 236B, Le Van Sy St., Ward 1, Tan Binh Dist., Ho Chi Minh City, Vietnam.

Email: nmtrinh@hcmunre.edu.vn; ttkim@hcmunre.edu.vn

to be insufficient to address the cumulative effects of human activities on the marine environment and has shifted to a more holistic “ecosystem approach” that calls for comprehensive analysis of all dimensions of environmental problems (Arkema, K.K., et al., 2006; Country Agencies Interagency Marine Spatial Planning Working Group, 2005).



Figure 1. Using Marine Spatial Planning around the world
(Source: UNESCO, 2017)

According to Ehler, C. et al. (2009), “Marine Spatial Planning (MSP) is a comprehensive and integrated approach to managing human uses and activities in the marine environment. MSP allows for coordination between all ocean and coastal users, draws upon the best available science, and creates an inclusive decision-making process that carefully considers economic, social, ecological, and cultural interests”.

During recent years, MSP has been the focus of considerable interest throughout the world, particularly in heavily used marine areas. It was applied and reached many initial results at least five countries (Belgium, the Netherlands, Germany, Norway, and China) and two American states (Massachusetts and Rhode Island). Several other countries (Canada, Australia, Sweden, and Poland) and one American state (Oregon) have just implemented spatial plans for their marine waters (Charles N. Ehler, 2010). Nowadays, there are many countries around the world (Figure 1) that are using Marine Spatial Planning to encourage compatible uses, reduce use conflicts, and balance sustainable use and marine conservation (UNESCO, 2017).

2. APPROACH SCHEME

For the past ten years, based on the first international workshop on MSP (November 2006) and publishing a UNESCO technical report, *Visions for a Sea*

Change (2007), the principal investigators co-edited the first peer-reviewed special issue of the international journal *Marine Policy* (September 2008) devoted to MSP. The latest result is the guide “Marine spatial planning: A step-by-step approach toward ecosystem-based management”, published in June 2009. It is primarily intended for professionals responsible for planning and management of marine areas and their resources, and moreover, a comprehensive overview of MSP is illustrated detail. This guide focuses on describing a logical sequence of steps required to achieve desired goals and objectives for applying the ecosystem approach to managing marine areas.

The guide is organized into two parts. The first part defines MSP, why it is needed, what its benefits and outputs are, and includes how it relates to other marine management approaches. The second part is the most important. It lays out a ten-step approach that will show you how MSP could become operational in your area. Each step is further divided into separate tasks and actions. How the steps are connected is shown in Figure 2.

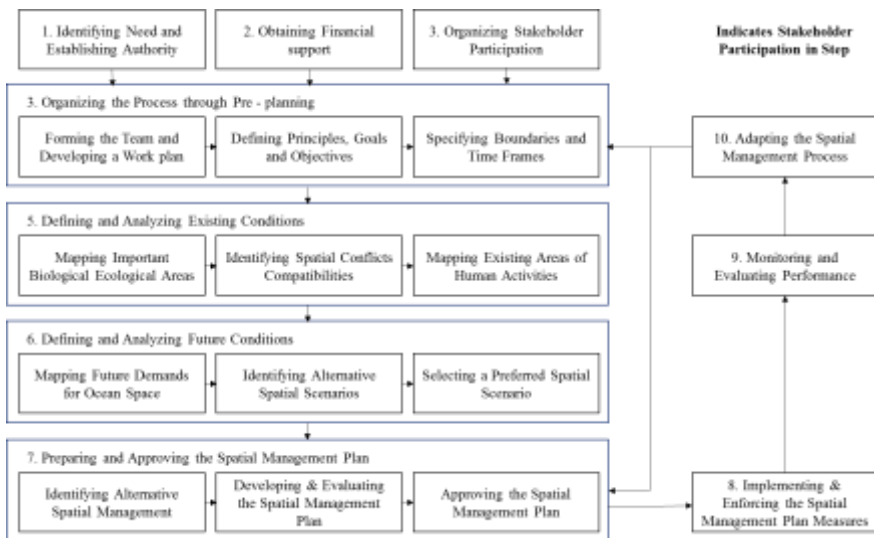


Figure 2. A Step-by-Step Approach to Marine Spatial Planning

These 10 steps are not simply a linear process that moves sequentially from step to step. Many feedback loops should be built into the process. For example, goals and objectives identified early in the planning process are likely to be modified as costs and benefits of different management measures are identified later in the planning process. Analyses of existing and future conditions will change as new information is identified and incorporated in the planning process. Stakeholder participation will change the planning process as it develops over time. Planning is a dynamic process and planners have to be open to accommodating changes as the process evolves over time.

3. MARINE SPATIAL PLANNING IN VIET NAM

Vietnam is a coastal country located along the Vietnamese East Sea, has a coastline longer than 3,260 km, with two archipelagoes of Hoang Sa (Parcel islands) and Truong Sa (Spratly islands) and more than 3,000 big and small islands, with 28 coastal provinces and cities of 63 provinces and cities of the country (Figure 3). The sea area of Viet Nam is approximately three times larger than the land area and stretches across 20 coastal and marine ecosystems belonging to six marine biodiversity zones [Nguyen

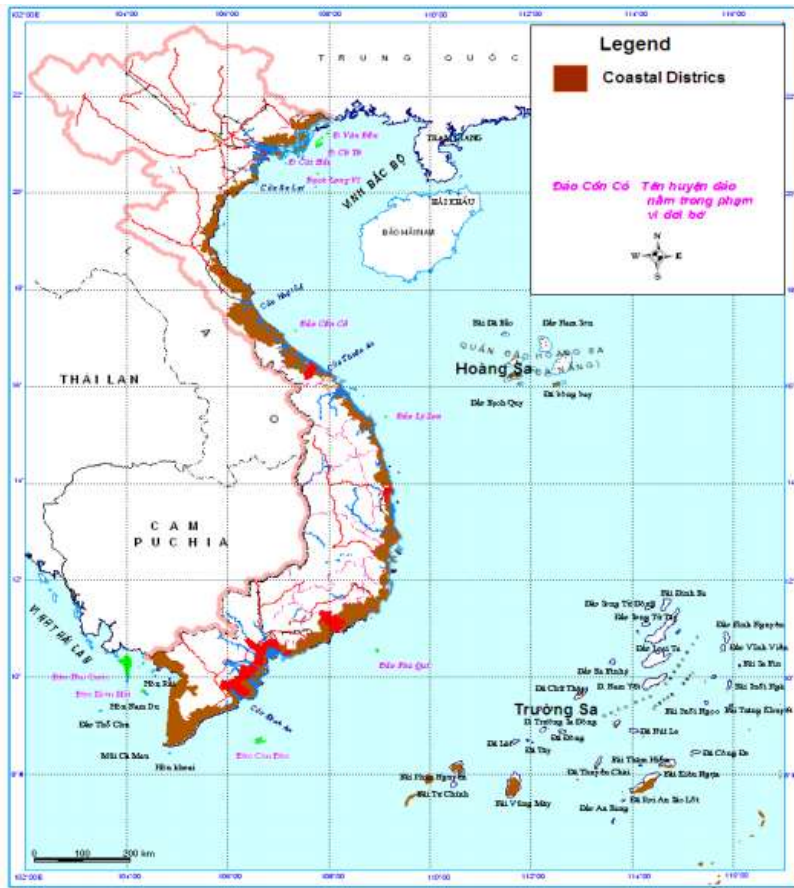


Figure 3. Coastal Zone in Vietnam
(Source: Nguyen Quoc Cuong et al., 2014)

Chu Hoi, 2012; Nguyen Hong Thao, 2005]. Viet Nam’s seas include approximately 2,773 near-shore islands, 12 coastal lagoons (in Central Viet Nam), 44 coastal bays, 114 river mouths and estuaries, and two offshore archipelagos

[*Nguyen Chu Hoi, 1995; Nguyen Chu Hoi, 2009*]. The coastal area accounts for 17% of the total area of the country, and is inhabited by more than 20 million people, with the average population density of about 267 people per km², 1.2 times higher than average density of the country [*Nguyen Quoc Cuong et al., 2014*].

To achieve all the above objectives while protecting the environment and social welfares towards sustainable development of the marine and coastal areas, it is essential to apply lots of different solutions. One of the solutions is to apply the Coastal and Marine Spatial Planning (CMSP) in Vietnam as soon as possible. This type of planning was applied in the world 15 years ago and has achieved significant results. In Vietnam, this CMSP has not been applied as right as what its meaning contains but through the zoning plan of the management of some marine protected areas (MPA) and demonstration of project on integrated coastal management (ICM). Particularly, in 2002, the Hon Mun MPA (Khanh Hoa province) has been divided into 4 following zones: core zone, ecological restoration zone, transition zone and development zone. The zoning plan has been approved by city authorities and incorporated into the urban socioeconomic development plans. The management zoning plan of the MPA Hon Mun, Khanh Hoa province is illustrated in Figure 4.

The need of economic development under the context of conflicts of interest in using resources of coastal and marine areas has been on the rise. MSP is considered as an effective tool for coastal and marine use management which has been successfully applied in the world in the past 15 years, however, it is a new concept in Viet Nam. Currently, MSP has been approached for the functional zoning of several marine protected areas (MPA) such as: Nha Trang bay MPA, Bai Tu Long Marine Park, and Cu Lao Cham MPA, as well as coastal use zoning for ICM in Da Nang, Ha Long, and recently in Thua Thien-Hue.

Implementation of *Decision No.1570/QĐ-TTg of 2013* in 14 coastal provinces and cities in central Vietnam was and being very different. Da Nang and Thua Thien-Hue approved and implemented the ICM strategy and plan. The following provinces have endorsed the strategy and are in the process of formulating an action plan: Nghe An, Khanh Hoa, Binh Thuan, Quang Nam and Quang Ngai. The remaining includes: Thanh Hoa, Ha Tinh, Quang Binh, Quang Tri, Binh Dinh, Phu Yen, Ninh Thuan. Although the Hai Phong-Quang Ninh ICM Framework with nine priority managerial actions signed, but only one implemented action is “*Coastal spatial use zoning and management planning for QN-HP area*”. This has been implemented under technical support from NOAA and corresponding funds from Vietnam’s Government through Ministry of Science and Technology. There is not an inter-sector institutional arrangement to carry out the approved ICM actions.

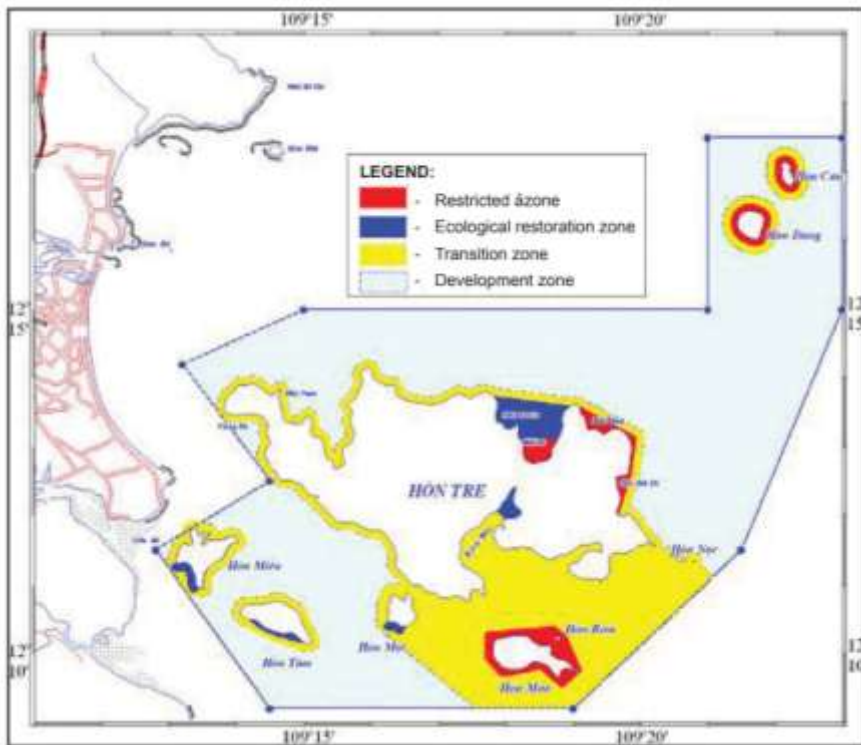


Figure 4. The management zoning plan of the MPA Hon Mun, Khanh Hoa province
(Source: Management Board of MPA Hon Mun, 2002)

In 2010, UNDP provided funds to translate the “*Guidelines for MSP: a step-by-step toward ecosystem-based management*” of IOC/MAB-UNESCO (2009) into Vietnamese language. In years 2010-2013, Vietnam has participated in a regional project on coastal spatial planning funded by Sida-UNEP-COBSEA, called “*Spatial Planning in the Coastal Zone of the East Asian Seas Region: Integrating Emerging Issues and Modern Management Approaches*”. This project improved MSP capacity for Vietnam through: (i) Training for some key staff of Vietnam Administration of Seas and Islands (VASI) of the Ministry of Natural Resources and Environment (MONRE), Institute of Strategy and Development of the Ministry of Planning and Investment (MPI) and Hai Phong City People’s Committee; (ii) Published the national resource document on coastal and marine spatial planning (CMSP) and the training manual on CMSP for Vietnam; and (iii) Organizing a training course on CMSP for coastal planners, managers at local and central levels, mainly from Quang Ninh and Hai Phong (According Reported of IUCN, 2014).

MSP was first conducted in Quang Ninh-Hai Phong coastal area (2010-2013) which produced 18 thematic maps (6 maps at the scale of 1:250.000 for the whole

coastal areas of two provinces, 6 maps at the scale of 1:100.000 for a case-study in Cat Ba-Hai Phong port and 6 maps at the scale of 1:100.000 for the other case-study in Mong Cai-Ha Coi) and 3 maps of coastal spatial use zoning at the scale of 1:250.000 and 1:100.000 as the above mentioned. Based on such coastal atlas, a coastal spatial management plan in Quang Ninh-Hai Phong area has been developed.

From 2011-2015, the World Bank will support Viet Nam's fisheries sector to conduct a project on "*Coastal resources for sustainable development*" in 8 coastal provinces and assist in mainstreaming CMSP into coastal resource investment plans. A project in the Ninh Thuan-Binh Thuan provinces and a "*Study of scientific baselines in the service of MSP in Viet Nam's Southwest areas of the Gulf of Thailand*" are on going initiatives under the National Program on Marine Science and Technology (2012-2015) [Nguyen Chu Hoi, 2013]. The Sida small-grant project for the management of the Red River coastal biosphere reserve developed a local CMSP Training Manual as a tool for coastal management in this project [MDC-Sida, 2012].

From 2012, the Viet Nam Administration of Sea and Islands (Entrusted by the Ministry of Natural Resources and Environment) has been integrated many Department and local Government in coordination with projects. MSP will surely become a tool to support the implementation of this new planning in Vietnam.

Until now, definition of the MSP has not yet been incorporate in legal document and law related to sea and island management in Viet Nam. However, the coastal and marine economic development planning is to be mentioned in the Law of Vietnam Seas approved in 2012 with some regulations. Specially, Article 44 of the law stipulates that in planning process have to conduct coastal and marine use zoning for socio-economic and security purposes, in the same time to require the development of a coastal and marine use plan which to be submitted to the National Assembly for review and final approval [Nguyen Chu Hoi, 2014].

3. CHALLENGES IN APPLYING MARINE SPATIAL PLANNING IN VIET NAM

Although MSP is a modern measure and tool in coastal and marine management, but application of them in Vietnam is facing the following challenges:

MSP is still new not only for managers and planners, but also for the scientists in Vietnam. It is applying in the country since 2010, thus lack of the MSP's officially name in currently national planning and policy mechanism of Vietnam to apply the MSP widely and regularly [Nguyen Chu Hoi, 2012].

The awareness of the role, location of the sea and marine economy of all levels, branches, coastal provinces and people is not sufficient. Besides, the size of the marine economy is small and not commensurate with its potential.

Conflicts appeared is affect directly sustainable management. Two of which are the interests of between sector with sector and the interests of between local resident with local resident.

REFERENCES

- Arkema, K.K., et al. (2006). *Marine ecosystem-based management: from characterization to implementation*. *Frontiers in Ecology and Environment* 4(10), pp. 525-532.
- Country Agencies Interagency Marine Spatial Planning Working Group. (2005). *Natural Heritage/Nature Conservation objectives for a Marine Spatial Planning (MSP) system*.
- Clement Lewsey and Gonzalo Cid (2010). Coastal and Marine Spatial Planning (CMSP): Concept and the U.S. Initiative. In workshop proceedings on MSP in Haiphong City, Vietnam.
- Decision No. 1570/QĐ-TTg of 2013 on a Strategy on Sustainable Use and Exploitation of Marine Resources and Environmental Protection until 2020 and Vision towards 2030.
- Ehler, C. and F. Douvère. (2006). *Visions for a Sea Change*. Paris, France: UNESCO, Intergovernmental Oceanographic Commission.
- Ehler, C. and F. Douvère. (2009). *Marine Spatial Planning: A step-by-step approach toward ecosystem-based management*. Paris, France: UNESCO, Intergovernmental Oceanographic Commission.
- Management Board of MPA Hon Mun (2002). *The Management Plan of MPA Hon Mun, Khanh Hoa province towards 2010*. The document of GEF-Danida-IUCN pilot project, Nha Trang city, Viet Nam.
- MCD-Sida (2012). *Manual of coastal and marine spatial planning for local level in Vietnam*. Ha Noi (in Vietnamese).
- Nguyen Chu Hoi (1995). *Chapter 15: Viet Nam*. In “*Coastal Management in Asia-Pacific Region: Issues and Approaches*”, K. Hotta and I.M. Dutton (eds.), Japan International Marine Science and Technology Federation, Tokyo.
- Nguyen Chu Hoi (2009). *The state management of seas and islands in Viet Nam: Issues and Approaches*. *Journal on Natural Resources and Environment*, No 6/09, Ha Noi.
- Nguyen Chu Hoi (2012). *Status and Management of Marine Protected Areas in Viet Nam*. *VNU Journal on Science and Technology*, 28 No. 4S (2012), pp.77-86, Ha Noi.
- Nguyen Chu Hoi (2013). The status of coastal and marine spatial planning application in Viet Nam. National Workshop Proceeding: The application of marine and coastal spatial planning in Viet Nam “An Ecosystems based Management Approach”, Ha Noi.
- Nguyen Chu Hoi (2014). *Integrated spatial planning and management for coastal and marine sustainability in Vietnam*, Ha Noi.

- Nguyen Hong Thao (2005). *Some issues relating to develop a draft of National Law on Seas in Viet Nam*. Proceedings of International Workshop on Marine Policy, Legislation and Sustainable Development, Ha Long city, Halong city, Viet Nam.
- Nguyen Quoc Cuong, Nguyen Van Cu (2014). *Integrated coastal management in Vietnam: current situation and orientation*. Journal of Marine Science and Technology, Vol. 14, No. 1, pp. 89-96.
- Scottish Environment LINK, (2006). *Marine Spatial Planning*. Marine Bulletin 3, September.
- Sida-UNEP-COBSEA (2011). *Spatial Planning in the Coastal Zone of the East Asian Seas Region: Integrating Emerging Issues and Modern Management Approaches*.
- IUCN-NOAA-MOFI (2002). *Integrated coastal management in Vietnam: Issues and Approaches*. Workshop proceedings, Ha Long city, Quang Ninh.
- Vietnam National Assembly (2012). *Law of Vietnam Seas*. Law No.18/2012/QH13 dated 21 June 2012, Ha Noi (in Vietnamese).

QUY HOẠCH KHÔNG GIAN BIỂN: TIẾP CẬN VÀ THÁCH THỨC

**NGUYỄN KỲ PHÙNG¹, NGUYỄN NGỌC TRINH²,
TRẦN THỊ KIM³**

TÓM TẮT

Phát triển kinh tế bền vững vùng ven biển và đảm bảo sinh kế ở địa phương là vấn đề cần thiết trong việc quản lý mâu thuẫn về suy thoái nguồn lợi thủy sản, suy thoái môi trường và khai thác quá mức tài nguyên vùng ven biển. Quy hoạch không gian biển nhằm cung cấp các giải pháp chiến lược để cân bằng việc thúc đẩy của khu vực kinh tế ven biển với việc bảo vệ môi trường và phúc lợi xã hội.

Bài báo tập trung vào việc xác định cơ sở quy hoạch không gian biển tại Việt Nam cũng như xác định những thách thức đang mà Việt Nam đang phải đối mặt khi áp dụng quy hoạch. Các kết quả từ bài báo là cơ sở cho việc phát triển bền vững, sử dụng hệ sinh thái biển và bảo vệ tài nguyên thiên nhiên.

Từ khóa: Quy hoạch không gian biển, phát triển bền vững, bảo vệ môi trường, quản lý mâu thuẫn.

¹ Viện Khoa học và Công Nghệ Tính Toán, Công viên phần mềm Quang Trung, Quận 12, Thành Phố Hồ Chí Minh. Email: kyphungng@gmail.com

^{2,3} Trường Đại học Tài nguyên và Môi trường thành phố Hồ Chí Minh, 236B, Lê Văn Sỹ, Phường 1, Quận Tân Bình, Thành phố Hồ Chí Minh, Việt Nam
Email: ntrinh@hcmunre.edu.vn; ttkim@hcmunre.edu.vn