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A Critical Review of Vietnam's Marine Management and New Insights for a Sustainable Development of the Blue Economy

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Abstract

The idea of the blue economy has been gaining publicity since the second half of the 20th. century. Coastal states worldwide are especially aware of the crucial importance of oceans as an economic and ecological resource. Vietnam is a case in point. Occupying a vast area of the South China Sea, Vietnam, a developing state in South-East Asia, has an economy largely depending on marine resources. However, Vietnam faces many troubles in managing maritime spaces. This paper portrays the practices of the maritime spatial management of Vietnam in the South China Sea and then focuses on giving practical suggestions on maritime spatial planning and its implementation.

Keywords

Maritime spatial planning (MSP), implementation, marine governance.

Introduction

The South China Sea is a strategic focal point for the world's shipping, and for developing countries in this region. However, the South China Sea is made difficult and contested. Noting that most disputes among coastal states have been solved via diplomatic methods, it is concerning to see China dispute energetically with coastal states in this region in relation to the so-called nine-dash line.

In order to prevent China's undue territorial expansion, countries in the region need to develop maritime spatial plans. Maritime spatial planning (MSP) 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. Typically, MSP uses maps to create a comprehensive picture of an ocean area, its resources, its uses, and its users.

Maritime spatial planning has an especial bearing and potential in the South China Sea, where the utility of planning exceeds the bounds of political economy to involve political security.

Maritime spatial planning is also of special utility to Vietnam.

Vietnam, a coastal state, occupies a vast part of the South China Sea with more than one million square kilometers and includes over 3000 small islands nearby and many small islands far offshore in two

archipelagos, namely the Sprat and Paracel. Nearly half of the population of Vietnam lives in twenty-six coastal provinces along the coastal lines.

Located in a privileged geopolitical position with a myriad of marine resources consisting of sea creatures, petroleum, natural gas, and minerals in coastal and offshore areas, Vietnam has long benefitted from marine resources. The blue economy is booming with a variety of sectors related to marine tourism, petroleum, shipping, fisheries, and renewable energies. Individually and severally, these endeavours contribute consequentially to the economy of Vietnam, and call for appropriate marine governance.

Thus, the Politburo approved the Maritime Economic Development Policy and issued Resolution No. 09-NQ/TW on the Vietnam Sea Strategy at the Fourth Conference of the 10th Central Committee of the Vietnamese Communist Party on 9 February 2007, which emphasized the 21st century as "The century of the ocean."[1] The "century of the ocean" gestures to the importance of the blue economy to Vietnam, and to the legislative system, tools, and governmental organs which support the blue economy.

With the blue economy in mind, the Vietnam Sustainable Marine Economic Development Strategy for the period 2018–2045, issued on 22 October 2018 focuses on sustainable development of the marine economy: formation of marine ecological culture; actively adapting to climate change and sea-level rise; preventing trends of pollution, degradation of the marine environment, coastal erosion and sea erosion; restoration and conservation of important marine ecosystems; and applying cutting-edge scientific achievements for promoting sustainable economic development of the sea.[2] However, to realise the maritime strategic plan, structural and governance reforms are required.

A Critical Review of Using and Governing Marine Resources of Vietnam in the South China Sea for Ten Years

Using marine resources without a thoughtful and practical maritime spatial plan has led to many weighty problems; *inter alia* the gradual exhaustion of fossil resources and fish, serious marine pollution, the degradation of the ecological balance and biodiversity, and conflicts among marine stakeholders. These urgent issues are analysed in more detail below.

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The Difficulty of Implementing the Maritime Strategy towards the 2020 Vision

The government has acknowledged "The 21st century is the century of the ocean" in the Maritime Strategy towards 2020 vision. However, the present scale of the blue economy is small; and much needs to be done to realise and develop potential.

At present, the blue economy is small. Planning and infrastructure in coastal areas and islands is weak and fragmented. Where development and investment has been vigorous, very often investment and development has been misguided, suffering the lack of a cohesive, unifying overall approach.

There is an overall strategy, but the steps by which this strategy might be realised are insufficiently plain and thought through. As well, the way progress might be measured is unclear. What is clear though, is the diminishing contribution of the blue economy to the GDP. In 2005, the blue economy was about 22% of the national GDP. In 2017, this proportion had decreased to 13%. The attenuation continues.[3]

A Lack of Sustainability in Developing a Blue Economy

The difficulty implementing a strategic vision stems in a large part from a lack of awareness. At all levels of society, and in very many sectors of the economy there is a failure to comprehend the power and importance of the marine economy.

In part, this is due to a lack of clearness and precision in defining maritime economic spaces, the connection and the potential connections among marine, coastal, and island economic sectors, and the activities of gathering and analysing the statistics which illuminate the whole picture.

Plans for managing marine resources, are very many and varied,[4] but a glance through them will show a focus on exploiting marine resources. In contrast, plans for the sustainable development of Vietnam's marine resources are comparatively under-developed. Currently, in the Vietnam Maritime Strategy for 2010–2020 and the Vietnam Sea Law in 2012, there are four defined marine economic sectors in six groups, including oil, gas and other types of marine mineral resources; shipping and seaports; building and repairing ships; maritime services; marine tourism and island economy; and exploiting, cultivating and processing seafood.[5] The consistent focus is on exploitation for short-term purposes.

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The Underdevelopment of Marine Science and Technology

The system of marine scientific and technological research institutions has been small, incapacitated, dispersed, task-overlapping and only located in large cities

The facilities of monitoring, forecasting and warning of marine natural disasters, and search-and-rescue in coastal areas, are rudimentary and poorly-equipped. In addition, people are not properly prepared to reach the open sea. Thus, the quality of marine research has been poor, and limited to coastal areas.

Case study

Conflicts among economic sectors and environmental protection in the coastal zone of Hai Phong city.[6]

Hai Phong is one of the biggest habour cities located in the north of Vietnam. The economy of the city consists of three main sectors: ports, industry, and tourism. However, lacking an appropriate, sustainable maritime spatial plan, development has been poorly coordinated. Of note, economic and industrial development has tended to compromise the environment.

To begin with the conflict between tourism and marine environmental protection, Hai Phong has two famous tourist areas: Do Son beach and Cat Ba Island. Conflicts between tourism development and environmental protection have been apparent in Cat Ba Island since the island was recognized by UNESCO as a world biosphere reserve. Booming tourist numbers and booming development have caused serious problems: water pollution by untreated domestic wastewater and solid waste from tourism areas, and the destruction of the coral reef around the island by oil pollution of tourism vessels.

The conflict also occurs between industry and environmental protection groups when industrial wastewater containing toxic substances (such as phenol, cyanide, heavy metals, durable organic pollutants, suspended solids) is dumped into habour water (or in fact, anywhere).

According to the Hai Phong Department of Environmental Protection, the operation of Hai Phong's industrial facilities generates about 778 tons of hazardous and difficult to decompose

waste each year. Of this, about 415 tons are recycled, the rest is disposed of, but only about 10% is processed in accordance with waste treatment regulations.

As well, the discharge of untreated waste from ports and shipyards degrades the sea environment via increasing organic matter and pollutants, especially heavy metals, which leads to the accumulation of pollutants in fish and bivalve species. Dumping dredged materials from the channels to the deep areas near Cat Ba Island was responsible for the decline of water quality there. Additionally, the operation of ships/boats on the river disturbs the habitat of aquatic organisms.

However, the efforts to research marine environmental pollution so as the environment might be better protected have been very limited. Efforts instead – and tragically – have been directed toward the short term gain which follows from the exploitation of precious, non-renewable resources.

Vietnam ranks fourth in the world in terms of marine waste pollution, especially plastic waste. Violations of the law on environmental protection are very common. National environmental protection strategies have done little to prevent or to discourage an array of severe marine pollution incidents. Few, if any, goals have been met. Marine pollution and seems unabated, and plans for the sustainable development of the marine treasure seem merely aspirational.[7]

Case study[8]

The Formosa Incident

In 2016 the Ha Tinh Steel plant, built by the Taiwanese company, “Formosa” discharged toxic waste into the sea through drainage pipes. This was the biggest single environmental disaster in Vietnam for generations.

This incident shows interconnection of uses in the maritime domain and the resonance of the maritime domain through the entire economy.

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Beyond immeasurable tons of dead seafood, the chemical discharge caused the death of coral reefs, and plankton affecting long-term livelihoods of locals. Over 17,600 fishing vessels and nearly 41,000 people were directly affected. Tourism in Hanoi and Ho Chi Minh City also suffered since guests planning to visit the four provinces cancelled tours, making room occupancy in those four provinces only 40–50%.

Weaknesses of the National Management System

Up to now, the sea, islands and coastal areas within Vietnam's jurisdiction have been managed separately by departments. Bureaucratic confusion and friction has been significant, since management and regulation functions have involved something in the order of fifteen ministries.[9]

The upshot has been predictable. Policies and laws on marine management are not synchronised. There are overlaps and contradictions.[10] Law enforcement comes to be much more difficult than it should be. And regulation comes to be difficult.

Perhaps because it is easier to go along to get along, the involvement of local and national authorities in marine management has not been vigorous. In consequence, the ownership and proper use of coastal land and waters is ambiguous. In turn, coastal communities suffer, and the policing of illegal, unregulated and unreported fishing is less effective than it should be.

In short, the bureaucratic structures which underpin Vietnam's oversight of the maritime domain are immature. Problems which obtain from underdeveloped governance structures are compounded by an insufficient national strategy, by poor infrastructure, a lack of qualified human resources, poor science and technology, and by constrained financial resources.

Making a Practical Maritime Spatial Program

The National Assembly of Vietnam, the highest organ of state power adopted maritime planning law in 2017. The Assembly directs the Ministry of Natural Resources and Environment to formulate maritime plans to which all other plans and strategies and plans are subordinate, and with which all other plans should be consistent.

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The Ministry assumes the prime responsibility and coordinates ministerial-level agencies, and local authorities; in order to take account of inter-agency, inter-regional and inter-provincial issues so as rules, regulations and plans might be uniform and effective.

After proposing the plan, it is sent to the relevant authorities for review and in order that authorities might give their suggestions to the Ministry of Natural Resources and Environment. These authorities send suggestions, together with explanations, to the Planning Evaluation Council. Following the deliberation and conclusion of the Council, the Ministry of Natural Resources and Environment adjusts the proposal and submits it to the prime minister before the National Assembly meeting for approval.

As strategy and plans evolve, there will be – or should be – some consistent and enduring themes.

Firstly, maritime strategy and resource management plans should evolve to reflect data. In turn, data should be collected and collated in order to inform long term perspectives and forecasts. Beyond quantitative data, planners should have a mind to legislation, policies and plans. The point being, with good data – and with records taken from a variety of perspectives -- planners can assess opportunities and threats, and make course corrections to best secure the sea as a national asset.

Moreover, data should be transparent. Transparency enables comment, collaboration and innovation. Certainly, data are available to the public online, but this availability is fairly meagre and the update or refresh cycle is infrequent and irregular.

As well, data should be collected from *de novo* sources. Too often data is secured from old and familiar sources only. There is a good reason for this; data on the marine environment and on the governance of this environment have been tricky and difficult to collect. Old, familiar and reliable sources are favoured. But new sources offer new perspective, insights and innovations.

Taking this point a little further, foreign and non-government organisations might profitably be encouraged to do marine research, and to gather new data. And effort should be given to making

reporting mechanisms clear, so as data collection and reporting can be frequent, accurate and sustainable.

Additionally, maritime planning needs to be consistent with standards set down in the Law of the Sea Convention.

The Law of the Sea Convention acknowledges the sovereignty of the coastal states over internal water and territorial waters up to 12 nautical miles, measured from baselines. By the lights of the Convention, Vietnam has exclusive rights to fish stocks in the Exclusive Economic Zone (EEZ) which extends to a distance of 200 nautical miles measured from the coastal baseline.

Coastal states have sovereign rights to explore, exploit, conserve and manage the living resources in the EEZ, and take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention.

For highly transboundary migratory species, the conservation and exploitation should consider collateral states. In the case of Vietnam, these states include China, Taiwan, Philippines, Thailand, Indonesia, Malaysia, and Cambodia.

Beyond the fine points of day to day dealings at the rub points of maritime boundaries, a maritime spatial plan must be strategic – which is to say , a spatial plan should take a long term view of the state's development and set out the practical steps by which such a spatial plan will be realised.

Saying this we acknowledge that the small steps along the road to a long term strategy will be measurable, and we acknowledge development targets for the period 2010–2020 have been a problem – either the targets have been too easy, or they have been too hard. Only rarely have they been realistic.

Looking ahead, the Vietnam Government has approved the strategy for the period 2018–2045. Now it is the job of the planners to gather data and to refine data, to evaluate the capacity of each relevant sector and set up an explicit development index which may be slightly different from the index in the national economic development strategy. By 2030, the marine economic sectors are in the following priority order: (1) Tourism and marine services; (2) Marine shipping industries; (3) Mining oil and gas

and other marine mineral resources; (4) Aquaculture and fishing; (5) Coastal industry; (6) Renewable energy and new marine industries. The planners must follow the priority order.

At present, the marine environment and ecosystems in the coastal areas within 12 nautical miles from baselines are degraded by overfishing, and pollution – particularly after the Formosa incident. The fishing yield near the shore, where the majority of fishing boats are small capacity and where conflict between stakeholders is severe, has declined markedly.

This is a conflict which gestures to the potential for eco- and spiritual tourism. Such an industry might nourish an array of linked marine cultural spaces, and contribute not merely to environmental protection and conservation but also to the life and livlihood of coastal residents. The fishers owning small boats could be a force in the development of this kinds of tourism. Additionally, renewable energy can be established in these areas to take advantage of the solar, wind and tidal powers and support the development of the sectors there.

Just as coastal fishing and eco-tourism might be prioritised in coastal areas, so oil and gas might be preferred in offshore areas. Similarly, marine shipping industries should be located where the disruption is minimal. Common sensibly, it is necessary to close small ports and the ones operating inefficiently. Concurrently, the international ports and main national ports need to have more investment to upgrade the infrastructure and human resources to manage all activities and control risks of marine pollution.

The shipbuilding industry needs a similarly pragmatic consideration. Shipbuilding is considered one of the main industries of the state, but its growth has reduced remarkably. Furthermore, shipbuilding requires a huge investment in order to furnish the necessary technology and infrastructure. And as well, shipbuilding is responsible for an array of environmental pollution incidents in the coastal area near the shipbuilding factories. It would be wise to designate some coastal areas for main shipbuilding corporations and close small private yards which are sources of environmental pollution.

The point is: in order to avoid conflict among blue economy sectors, the demands of each sector have to be understood. The development targets of each sector must be consistent with national economic development strategy. Thus, planners might enjoy a comprehensive view which reveals the the correlation and the potential conflicts between sectors of the economy. For example, fishing, eco-

tourism, and renewable energies (such as solar, wind, and tidal powers) can be designated with each other in the areas along the coastlines and islands near the shore.

To take advantage of infrastructure which might be shared, to capitalise on common skills and to minmise conflicts; planners must consider what is kept, what is removed, and alternatives. In more detail, sectors are kept if they are still on the list of priorities or support the main ones to develop or not impact negatively on the main ones. In contrast, it is necessary to remove inefficient ones, the ones conflicting with the new, and sources of environmental pollution. In cases where existing sectors in one area have the same priority order in the national maritime development strategy and they have conflicts with each other, the planners have to sit together with stakeholders to figure out adjustments to reduce the conflicts.

Careful planning is important since Vietnam is a developing country with a very limited national budget and its investment in the blue economy has been scattered and inefficient. As a result, considering the priority order of investment is also a crucial factor, but it probably takes much effort and time for this.

As well, it is crucial to prepare the legal framework. Laws and policies must supporting the larger, overarching strategy. Laws and the overall maritime spatial plan will benefit from conference and collaboration. Different stakeholders must discuss, adjust and fix the draft and approve the official draft. At the same time, they should examine the conflicts in the existing legislative system, decrees, circulars and plans of the government departments, and ministries related to governing sea areas as well as suggest measures to appropriately remove and adjust these the legal substructure.

Implementing the Maritime Spatial Program

A practical program is meaningless if it is not implemented appropriately and efficiently. An effective implementation plan requires a structured approach to thinking and communicating in eight areas: planning, governance, engaging stakeholders, managing risk, monitoring, review and evaluation, adjustment, resource management, and management strategy.

The mechanism of implementing a plan is mentioned but not clarified in the Planning Law of Vietnam. This is a tricky challenge for stakeholders to conduct their duties. This paper provides some suggestions with respect to engaging stakeholders, managing risk, monitoring, review

and evaluation, and adjustment, which are learned from the experiences and achievements of the MSP in the European Union , which offer some insights for Vietnam – a small developing coastal state with limited financial resources.

Legalising the program

In order to find practical realisation, the program will require legal endorsement. This will ensure that it is respected by even the most reluctant stakeholders. At least in the initial phase of the program, it will be important to have the authority of law, especially since integration among stakeholders will thus be imposed in a more or less top-down process.

On the other hand, it would be unrealistic to expect every aspect of implementation to be guided by law. In the case of specific resolutions of the plan, voluntary agreements and overall acceptance may well constitute the better option. This, however, requires bigger initial costs than a simple ban on certain activities.

Engaging stakeholders

It is necessary to have an agency in charge of bringing together different ministries, industries, and other stakeholders in an attempt at bundling a broad range of responsibilities and tasks. The best choice for this function is the proposal-making organ. In Vietnam, it is the Vietnam Administration of Sea and Islands. Whatever the institutional context, working together across administrative boundaries and sectors is essential if a coordinated maritime spatial plan is to be achieved. A particular point is that land–sea coordination should be strengthened, and thus a coordinating mechanism or agency needs to be established. Such an institution might be existing or a new and separate entity. The need for coordination is so strong that it may pay to make the establishment of a cross-sectoral coordinating body a legal requirement.

In addition, the data system should provide a platform for managing risks and conflicts among stakeholders during implementation. The problem-solving activities should be divided into

three levels: direct discussions and connections, conferences, and submission to higher competent authorities.

This suggestion reflects the common sense that most often, a workshop or discussion between conflicting parties will come up with a solution. If conflict cannot be resolved, a report is submitted to the competent higher authority. Above all, the management of, coordination, and reporting and resolution of conflict should be transparent, and timely. The conflict resolution process which is employed, will then sustain long term practical efficiencies.

Monitoring

The process of monitoring, review, and evaluation has to be based on a set of useful indicators. Indicators can take the form of quantitative/qualitative statements or parameters that can describe existing situations and measure changes or trends over time. Good and reliable indicators will generally be:

- Readily measurable on the time scales needed to support management, using existing instruments, monitoring programs and available analytical tools. They should have a well-established confidence limit, and their signal should be distinguishable from background noise.

- Cost-effective: indicators should be cost-effective since monitoring resources are usually limited.

- Concrete: indicators that are directly observable and measurable (rather than those reflecting abstract properties) are desirable because they are more readily interpretable and accepted by diverse stakeholder groups.

- Interpretable: indicators should reflect aspects of concern to stakeholders and their meaning should be understood by as wide a range of stakeholders as possible.

- Grounded on scientific theory: indicators should be based on well-accepted scientific theory, rather than on inadequately defined or poorly validated theoretical links.
- Sensitive: indicators should be sensitive to changes in the aspects being monitored. They should be able to detect trends or impacts regarding things that are monitored.
- Responsive: indicators should be able to measure the effects of management actions to provide rapid and reliable feedback on the consequences of management actions.
- Specific: indicators should respond to aspects they are intended to measure and have the ability to distinguish the effects of other factors from the observed responses.[11]

In practice, indicators should be established and defined by stakeholders, and by experts, in collaboration or conference. And, these indicators will need to be flexible. This is because maritime spatial plans will take a long time to realise. Ecological, socioeconomic and political strategies – so far as they relate to the sea -- need a lot of time to accomplish. This means long-term indicators have to be divided into temporal phases.

The big challenge of monitoring is to collect relevant data quickly but not expensively. Three suggestions are given:

First: establish a data system which enables data to be collected, collated, and shared. The collection and sharing of data should also be monitored, since accurate monitoring is the seed corn of good understanding of the whole maritime spatial plan. A good overview, enables understanding or mapping of sea use; boundaries, ecology, environment, human use and so on. Good data, and the good use of data, is on show in online mapping tools, a number of which have transitioned into operational systems. The most notable examples of these are: the Belgium Coastal Atlas developed under C-Scope, Plan Bothnia integrated into HELCOM-VASAB data portal, MESH Seabed Habitat maps integrated into EMODnet, Adriatic Atlas developed under SHAPE, ADRIPLAN Data Portal developed under ADRIPLAN, the European Atlas of the Sea and THAL-CHOR web-GIS. More generally, spatial data mapping

tools developed within projects have been proved to be useful demonstrations of transboundary mapping issues (e.g. TPEA, ArtWei, and Plan Bothnia).[12]

Many lessons can be learned from the Europeans. The BaltSeaPlan is the integrated maritime spatial plan of the states along the coastlines of the Baltic Sea. This program has been facing three main problems in collecting data. Firstly, the collected data are often too general to serve the MSP purpose.[13]

Secondly, dispersal of data is another problem both at national as well as the pan-Baltic scale because BaltSeaPlan partners lost a lot of time searching for suitable data stored at different institutions. Thirdly, the transnationality of some pilot projects, as well as the interdisciplinary nature of MSP, created additional challenges during the compilation of data into data sets and maps, so compatibility of MSP data is a technical problem.

Vietnam also has these problems because of the lack of infrastructure of information management, experts for determining indicators and human resources for collecting data. To cope with these issues in the national scale, Vietnam should consider some measures such as: establishing a national system of managing MSP data. Such a system would benefit cooperation between – for example -- the Vietnam Coastal Resources for Sustainable Development Project, the government assigns Coast Guard, Border Guard, fishery forces and others in the Ministry of Agriculture and Rural Development as well as fishers.

Last, data should be applied generally, where this is feasible. For example, the data of weather parameters, climate, and natural resources in each area can be used for not only environmental protection and preservation but also designating appropriate functions of each area (such as installing wind farms, generating renewable energy or other economic activities).

Review and Evaluation

It is difficult to evaluate the overlapping and complementary uses of the sea and the conflicting uses of the sea. Making this evaluation, it is constructive to discriminate between real conflict, and imagined or perceived and envisaged conflict. Some uses of the sea are mutually exclusive.

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Other uses only appear exclusive.

Some assessment tools founded by European states can be applied in Vietnam such as Ecodump or MESH – applied modeling tools to support management (environmental investigations, sedimentary patterns, site selection, ecological risks) in the Baltic Sea; EsaTDoR – maritime region typology: sea uses and land–sea interactions (i.e. economic significance, flows and environmental pressures) in Europe; MESMA or COEXIST – interactions and risk analysis in Europe; C-Scope in the NorthSea; and ADRIPLAN – cumulative impact assessments and conflict score tool in the Adriatic–Ionian seas.[14]

Adjustment

Logically, the evaluation can form the bases for adapting the maritime spatial program. The actual adaptation of the maritime spatial program can either be done by modifying (1) goals and objectives, or (2) the spatial and temporal measures selected to implement the maritime spatial program.[15] For temporal conflicts or problems related to the development of stakeholders, the adjustment should be conducted in a timely and common sense way.

For serious conflicts, four things need to be considered. Firstly, measures for theseissues should be conducted by the Vietnam Administration of Sea and Islands MSP authority and submitted to the government for approval. Second, when considering crucial elements in the plan, examining the evaluation and data once again because of possible loopholes or incorrect data during these phases should be considered. Third, before changing the plan, the planners have to account for strategic vision in the Marine Strategy of Vietnam to avoid deviating from the national development orientation. Fourth, since the context in which the initial maritime spatial program was drafted might have evolved as a result of changed socioeconomic, environmental, political or technical conditions, this new context should be taken into account when adapting the maritime spatial program.

Conclusion

Although having a long history of using the marine resource and being aware of the crucial role of the blue economy to the national development, the approach of Vietnam to the blue

economy has been fostered insufficiently. To develop the blue economy, the first and must-have step is to establish a feasible maritime spatial program based on concrete bases.

The bases originate from an examination of the present problems, potential threats and national capacity regarding infrastructure; human, financial and natural resources; technology; management systems; legislative initiatives integrated with the environment; national interests; strategic development visions; and international legal frameworks. In other words, the bases will follow from answers to the questions: "What does it want? What does it need to do?

And the maritime spatial plan must be implemented.

During the implementation, a tight coordination mechanism among stakeholders, monitoring, evaluation, and adjustment are vital to not only ensure what happens in practice following the plan but also control the risks and fix the inadequacies of the plan because of incorrect initial assessments of the planning step.

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