



National marine spatial planning aligns with sustaining environment, marine resources

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Vietnam has a coastline of more than 3,260 km with more than 3,000 large and small islands, its large sea area ranks 27th among 157 coastal countries and island nations. According to the 1982 United Nations Convention on the Law of the Sea, Vietnam's sea area is three times larger than its land area, accounting for about 30% of the East Sea area. Vietnam's sea is recognized as an area rich in natural resources with an important economic, geopolitical, defence and security position in the region and the world. However, besides the great economic and geopolitical values, Vietnam's sea and islands are facing a series of problems, such as: Degradation of marine and coastal landscapes, ecosystems; coastal marine environmental pollution; marine environmental incidents; increased negative impacts due to natural disasters, climate change and sea level rise; conflicts in exploitation and use of marine resources and space between relevant sectors and parties. Therefore, there is a need for a marine spatial master plan to properly arrange space for different industries and sectors to exploit and use, establish an optimal option and resolve inadequacies, overlaps and conflicts over the use of marine space, ensure balance between the needs of economic development, national defence, security and protection of marine ecosystems and environment.

POTENTIAL AND ADVANTAGES OF VIETNAM'S MARINE RESOURCES

Vietnam's sea is an important part of the East Sea with nearly 3,000 large and small islands and the Hoang Sa and Truong Sa Archipelagos. Vietnam's mainland coast is over 3,260 km long from Mong Cai (Quang Ninh) to Ha Tien (Kien Giang); the ratio between coastal length and land area is classified as high in the world, about 1 km of coastline/100 km² of land, 6 times the world average. The coast has a meandering shape, with many straits, bays, and lagoons; there are 114 estuaries that flow into the sea and on average there is an estuary every 25 - 30 km of coastline contributing to creating great value in ecology, economics, defence and security. Vietnam's sea is strongly influenced by the Northeast and Southwest monsoon regimes, surface currents and waves change in direction and intensity according to the monsoon season of the year, contributing to forming diverse geoecological areas and marine resources.

Vietnam's sea has diverse and rich positional resources and differences between sea areas including geonatural resources, geoeconomic resources, geopolitical resources, playing an important role that

the main subjects are marine space, water surface and seabed, channels, bays, coastal land, peninsulas and islands, tidal flats, sandy beaches, rocky shelves, cliffs, caves. The combination of positional resources has greatly contributed to socio-economic development, ensuring national defence and security of Vietnam. Vietnam's marine biological resources and aquatic resources are also quite rich, with more than 2,000 aquatic species, of which 130 species have high economic values. In the Vietnam's sea, about 11,000 species of creatures have been discovered living in more than 20 typical ecosystem types, belonging to 6 different marine biodiversity regions, bringing large aquatic resources; in the entire Vietnam's sea area, nearly 1,700 aquatic species have been identified, belonging to more than 730 breeds, 260 families and 55 ordines. In the period of 2016-2020, the total resource reserves of fish, crustaceans and cephalopods are about 3.9 million tons. By sea area, resource reserves in the Gulf of Tonkin are estimated to account for more than 17%; central fishing grounds account for about 19%; Southeast fishing grounds account for about 25%; Southwest fishing grounds account for more than 13% and the middle of the East Sea fishing grounds account for more than 23%. The spatial distribution of aquatic objects depends on the ecological characteristics of each species and aquatic group. However, aquatic resources and the living environment of aquatic species in particular and marine aquatic species in general are being declined in both diversity of species and quality of aquatic resources mainly due to overexploitation of fisheries especially in coastal areas, waste discharge sources from socio-economic activities of coastal industrial parks, urban areas, and tourist areas.

In addition, coastal wetland ecosystems with a total area of over 1.9 million hectares are very diverse in types. Along the coast of Vietnam, there are about 114 estuaries and creeks flowing into the sea (about 25-30 km of coastline has an estuary), contributing to



creating diverse ecosystems. The coral reef ecosystem is widely distributed from North to South over an area of about 1,200 km², concentrated in the South-Central coast, Hoang Sa and Truong Sa Archipelagos. However, in the past 15 years, about 15-20% of the area of coral reef has been lost, mainly in populated areas such as Ha Long Bay, Central provinces and some islands in the Truong Sa Archipelago. Some areas have developed coral reef such as the Western region of the Gulf of Tonkin, Hoang Sa and Truong Sa Archipelagos, Central coast and islands in the Southwest Sea.

Compared to other countries in the region, Vietnam ranks third in diversity of seagrass species, just behind Australia (20 species) and the Philippines (16 species). The area of seagrass beds in Vietnam is quite large compared to other surrounding countries in the East Sea region. Seagrass beds in Vietnam are distributed at depths from 0 to 20 m, the number of species living in seagrass beds is usually 2 - 8 times higher than in the sea outside. Seagrass beds are distributed from North to South and along the islands, concentrating heavily on the edges of Phu Quoc Island and some estuaries and lagoons in the Central region (Tam Giang - Cau Hai lagoon, Thuy Trieu lagoon). Vietnam's seagrass has 14 species, with diverse species composition and abundance in quantity. The summary results show that about 1,500 species of creatures live in Vietnam's seagrass beds, with more than 1,000 species in coastal beds alone. The level and speed of seagrass degradation varies in each region, depending on the natural environment and socio-economic development of each locality. Seagrass beds along the North Central coast are being degraded at an average rate of 6 - 7%/year (level II-III) such as Ly Son, Nha Trang Bay; South Central region about 3 - 5%/year (level I-II) such as Hon Cau, Phu Quy; Southern region about 3%/year such as Phu Quoc and Con Dao.

In addition, mangrove ecosystems are most distributed in the Mekong Delta (81.2% of the country), followed by the Red River Delta (17.7%), North Central and Central Coast regions (> 1.0%). The quality of mangrove forests is still very low, mainly secondary forests and planted forests. The area of Vietnam's mangrove forests decreased continuously until 2015, but then were newly planted and recovered 2 - 3 times since 2016.

Vietnam has great prospects for oil and gas with a total potential of nearly 6 billion m³ of oil equivalent. 8 offshore sedimentary basins with oil and gas prospects include the Red River, Phu Khanh, Cuu Long, Nam Con Son, Malay - Tho Chu, Tu Chinh - Vung May, Hoang Sa Archipelago, Truong Sa Archipelago. Of these, 4 basins with oil and gas output include: Cuu Long, Nam Con Son, Malay - Tho Chu and Red River. Minerals discovered in coastal areas and seabed include iron, ilmenite placer, zircon, coal, building materials, especially sea sand from Binh Thuan to Soc Trang. In the deep sea, a number of promising areas of iron-manganese crust rich in cobalt, nickel and iron-manganese nodules have been discovered (Southwestern East Sea lowland), flammable ice (Tu Chinh - Vung May, Nam Con Son, Hoang Sa and Phu Khanh basins)...

CURRENT STATUS OF EXPLOITATION AND USE OF VIETNAM'S MARINE SPACE

With more than 10 years implementing Resolution No. 09-NQ/TW dated 9 February 2007 of the 10th Central Executive Committee on Vietnam's Marine Strategy to 2020 and 5 years implementing Resolution No. 36-NQ/TW of the 12th Central Executive Committee on the Strategy for Sustainable Development of Vietnam's Marine Economy to 2030 with a vision to 2045, Vietnam has had great achievements, exploited the potential and advantages of the sea, gradually turned Vietnam into a country strong and rich in the sea with sustainable development, prosperity, security and safety, specifically as follows: (1) Awareness of the position and role of the sea and islands in socio-economic development, protection of national sovereignty are enhanced; national sovereignty and security at sea are maintained; (2) The marine economy makes a major contribution to the economic development of the whole country, marine and coastal areas continue to become the driving force for national development; a number of new professions and sectors related to the sea have appeared. The island economy has had positive changes, contributing to firmly protecting national sovereignty, sovereign rights and jurisdiction; (3) The infrastructure system of marine, coastal and island areas has been invested in and built, forming marine urban areas and economic centres; (4) Marine scientific research, baseline surveys, and human resource development are initially given attention; maritime culture is restored and promoted; (5) Management, exploitation, use and protection of marine environmental resources, response to climate change and sea level rise are emphasized; (6) National sovereignty and security at sea are maintained; law enforcement at sea is basically effective; international cooperation on the sea is strengthened.

Besides the achieved results, there are still some limitations, difficulties and challenges in sustainable development of the marine economy and organization for management, exploitation and use of marine space such as: Marine space has not been exploited and used effectively; position and potential have not been promoted as a



gateway to the world to promote economic development. Spatial overlaps and conflicts over sea use are complicated and have not been well controlled and resolved. Regional links between marine, coastal and inland areas, coastal localities and non-coastal localities, and between sectors and fields still have a lack of coherence and ineffectiveness. Some key marine economic sectors have not met the set requirements, some lack competitiveness, and their contribution to the economy is low. The gap between rich and poor among coastal people tends to increase. Marine environmental pollution, climate change, sea level rise, and coastal erosion are serious in many places. Marine ecosystems and biodiversity are declined. Some marine resources are overexploited...

NATIONAL MARINE SPATIAL MASTER PLAN FOR THE PERIOD OF 2021 - 2030 WITH A VISION TO 2050

Implementing the Government's Resolution No. 22/NQ-CP dated 24 July 2020 approving the task of developing the National marine spatial master plan, the Ministry of Natural Resources and Environment has presided over and coordinated with ministries, sectors, agencies of central government, provinces and centrally run cities with coastal areas to survey the current status and use needs of marine space, supplement information and data to develop the National marine spatial master plan. Accordingly, the Ministry of Natural Resources and Environment has established a Steering Committee for Planning, a multi-sectoral expert group to advise on professional contents during the planning process; organized consultation workshops in some localities, working sessions and discussions with ministries, sectors, international organizations and experts; coordinated to update, process and integrate information and data for development of the National marine spatial master plan. This is a multi-sectoral, comprehensive master plan that is "dynamic and open", "leading" and "integrative", orienting activities to exploit and use marine and island resources in a sustainable manner, contributing to solving the above problems, having important significance, creating a structural unity in the country's development planning system.

Based on the comments of the Central Committee of the Vietnam Fatherland Front, ministries, sectors, central agencies and people's committees of coastal provinces and centrally run cities, the Ministry of Natural Resources and Environment has accepted the explanation, supplemented and completed the National marine spatial master plan document and submit it to the Government. Implementing the Prime Minister's instructions, the Ministry of Natural Resources and Environment has: (i) Coordinated and sought opinions from a number of relevant ministries and sectors on some main contents of the master plan, especially the Ministry of National Defence, Ministry of Foreign Affairs, Ministry of Public Security; at the same time, updated and supplemented new information related to the orientations of the Politburo and the Government on socio-

economic development and ensuring national defence and security for coastal localities until 2030 with a vision to 2050, national master plan for the period of 2021 - 2030 with a vision to 2050; reviewed and updated information and data from national sectoral master plans, regional master plans and master plans for coastal localities; (ii) Completed the National marine spatial master plan document for the period of 2021 - 2030 with a vision to 2050.

In addition to the introduction and conclusion sections, the Draft national marine spatial master plan for the period of 2021 - 2030 with a vision to 2050 includes 2 sections and 9 chapters. The master plan aims to concretize the Party's orientations and policies and the State's legislation on the management, exploitation and use of marine space for sustainable development of the marine economy, making a nation strong and rich from the sea; ensure synchronization and unity on the basis of integrating relevant master plans to create motivation for socio-economic, culture development, environmental protection, marine conservation; ensure national defence and security based on natural conditions, marine and island ecosystems and the use needs of sectors, fields and coastal localities; maintain the function, structure, resilience, and carrying capacity of marine ecosystems, areas and regions; ensure the ability of marine ecosystems and environment to provide essential products and services for human life and the development of marine economic



▲ Vietnam's sea has diverse and rich positional resources



sectors; ensure marine socio-economic development based on integrated, intersectoral management and sustainable exploitation and use of marine and island resources, improve transparency, responsibility and participation of relevant parties in the management, exploitation and use of marine space; mobilize all resources, especially non-state budget financial sources for focused investment in marine economic development; prioritize state budget investment in research, baseline survey of marine resources and environment, completion of database, training of marine human resources to implement the master plan...

Accordingly, the objective of the Draft master plan to 2030 is to create a basis for rapid and sustainable marine economic development, contribute to the formation and development of strong marine economic sectors, create many effective livelihoods for the people; ensure national defence and security, maintain national sovereignty, sovereign rights and jurisdiction and interests in the sea areas; protect the environment, conserve biodiversity and cultural values, gradually turn Vietnam into a strong, rich country from the sea. Vision to 2050: All sea areas of Vietnam are effectively managed and sustainably used in space and over time, meeting the requirements of socio-economic development, ensuring national defence and security, environmental protection, marine conservation; accomplishing the objective to make Vietnam a strong and rich country from the sea. In particular, the specific objective is to effectively allocate, manage, and minimize conflicts in the exploitation and use of marine space to achieve sustainable development goals. Regarding marine economy: Contribute to purely marine economic sectors to reach about 10% of the country's GDP; the GDP of 28 coastal provinces and cities reaches 65 - 70% of the country's GDP and the average income per capita is 1.2 times the national average; expand land fund through sea reclamation activities and island expansion in places with suitable conditions; develop coastal and island urban areas; develop coastal economic zones and eco-industrial parks. At the same time, effectively manage and protect marine, coastal and island ecosystems, control the exploitation of marine resources within the resilience and carrying capacity of marine ecosystems; increase the area of marine and coastal conservation and protection areas towards reaching 6% of the natural area of the national sea; prevent, minimize and control marine environmental pollution; prevent, avoid and limit the impact of natural disasters, effectively respond to climate change, contribute to implementing Vietnam's commitment at COP 26 to reach net "zero" emissions by 2050...

To meet the above objective, the marine spatial master plan has proposed 5 key issues that need to be resolved, contributing to ensuring national defence and security: (i) Institutional and policy improvement; (ii) Strong marine economic development; (iii) Cultural and social development; (iv) Protection of the marine and island environment; (v) Development of resources and 4 breakthrough stages: (1) Strong focus on building a multi-purpose, synchronous and modern coastal and island

infrastructure system and logistics services, creating motivation to attract resources, promote sustainable development of marine economic sectors, ensure national defence and security, meet the requirements of responding to natural disasters, climate change, sea level rise and the marine environment incidents; (2) Development of sustainable, responsible and creative sea and island tourism associated with green and smart island urban development; (3) Promotion of the development of aquaculture economy in a green, circular, low-carbon, highly resilient direction, associated with marine conservation and marine and island culture, ensuring national defence and security; (4) Rapid and sustainable development of clean energy from the sea, prioritizing the development of offshore wind power, ensuring energy security and transforming the energy structure towards increasing green energy sources; overall research and assessment of the potential and development of the oil and gas industry, solid minerals and building materials on the seabed.

Based on the results of functional zoning, principles and criteria for use zoning and the results of handling spatial overlaps and conflicts of use, Vietnam's sea areas are divided into 4 socio-economic zones with different use zones including: 123 no-exploitation zones with a total area of about 75 thousand hectares; 413 conditional exploitation zones with a total area of about 21,411 thousand hectares; 253 areas that need special protection with a total area of about 2,055 thousand hectares; 190 priority areas for development encouragement with a total area of about 1,052 thousand hectares; potential areas that need survey and research for zoning and use according to development promotion purposes with a total area of about 34,614 thousand hectares; multi-purpose areas that have a total area of about 38,395 thousand hectares.

Obviously, the National marine spatial master plan is an important tool to concretize the "National master plan" and create a basis for managing activities of exploitation and use of natural resources and protection of environment, conservation of marine ecosystems effectively, contributing to the formation of strong marine economic sectors, creating more livelihoods for people, ensuring national defence and security, maintaining national sovereignty, sovereign rights and jurisdiction at sea ■