



India's Coastline Must be Viewed as an Integrated Space of Ecology, Security, Economy, Technology and Human Development: Dr. Jitendra Singh

Coastal Ecology and Security Cannot be Addressed in Isolation; Need Holistic Coastal India Approach: Dr. Jitendra Singh

India's 11,000–12,000 Km Long Coastline Offers Significant Potential for Marine Resources and 'Blue Economy'

Ocean Observation, Surveillance, Communication, Remote Sensing and Emerging Technologies Can Strengthen Coastal Security

Deep Ocean Mission and Indigenous Technologies Opening New Frontiers for Exploration of Marine Resources: Dr. Jitendra Singh

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India's coastline must be viewed as an interconnected space of ecology, security, economy, technology and human development, Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, said today while virtually addressing the National Conference on Coastal Ecology, Security and Sustainability (CCESS) 2026. India's 11,000–12,000 km long coastline offers significant potential for marine resources and the "Blue Economy", he added.

The Minister said that the country's long coastline and extensive marine ecosystem offer significant opportunities, while also requiring an integrated approach combining scientific knowledge, environmental sustainability, security and economic development.

Dr. Jitendra Singh said that India has an 11,000–12,000 km long coastal area, among the longest in the world, and emphasised the importance of the ocean and coastal regions in the country's future development. He said that India's historical association with the ocean also reflects the knowledge and understanding of the marine environment possessed by its ancestors.

Highlighting the importance of the Deep Ocean Mission, the Minister said that India is moving towards exploring the largely unexplored resources of the deep ocean while simultaneously building indigenous capabilities. He noted that a totally indigenous research vessel, ORV Sagar Manthan, was launched recently, reflecting efforts towards self-reliance in deep-ocean research and exploration.

Dr. Jitendra Singh said that robots and submersibles are being developed to explore the depths of the ocean. He also referred to the efforts to enhance India's capability for deep-sea exploration and said that the country's progress in this area would open up new possibilities for understanding and utilising marine resources.

The Minister linked deep-ocean exploration with India's emerging economic opportunities, saying that if the country is to take its economy to the next level, it will have to look towards resources that have not yet been fully explored. He identified marine and coastal resources, including metals, minerals and fisheries, as areas with significant potential.

Dr. Jitendra Singh highlighted the potential of marine resources to contribute to the country's economic development while ensuring environmental sustainability. Referring to research on black sulphite and minerals, he said that the possibility of extracting marine minerals in the future represents one of the areas being explored. He also highlighted work aimed at increasing the economic potential of fisheries.

The Minister emphasised that coastal communities are an integral part of the wider coastal ecosystem. He said that efforts to expand the economic potential of coastal resources must also focus on improving the livelihoods of communities living along the coast while ensuring protection of the environment.

Dr. Jitendra Singh highlighted the growing technological dimension of coastal security. He said that ocean observation, surveillance, communication, remote sensing, data and emerging technologies can play an important role in strengthening India's understanding of and preparedness for the coastal and marine environment.

The Minister said that these technological capabilities need to be brought together through a holistic Coastal India approach, with the combined participation of the Government and the wider nation. He emphasised that the challenges and opportunities associated with the coastline cannot be addressed by individual sectors working in isolation.

In this context, Dr. Jitendra Singh said that the National Conference on Coastal Ecology, Security and Sustainability (CCESS) 2026 provides an important platform for bringing together different areas of expertise. The conference's multidisciplinary character, involving earth sciences, academia, defence, maritime institutions, legal experts, industry and coastal stakeholders, provides an opportunity to develop an integrated understanding of coastal challenges.

The Minister emphasised that coastal ecology and coastal security cannot be addressed in isolation. He said that resilient coastal regions require healthy marine ecosystems, informed communities, effective governance and strong scientific capabilities.

Dr. Jitendra Singh highlighted the importance of connecting ocean science with national policy, so that scientific knowledge can contribute directly to coastal planning and management. He also emphasised the role of coastal communities, noting that their livelihoods, traditional knowledge and participation are integral to sustainable coastal development.

He said that India's coastal infrastructure and ports are central to connectivity, trade and economic growth, and that sustainable development of these assets requires a sound scientific understanding of coastal and marine environments.

Dr. Jitendra Singh also highlighted the "Swachh Sagar Surakshit Sagar" campaign, which has been undertaken for the past five years. He recalled that a 75-day campaign was launched in 2022 and involved participation from citizens and different stakeholders across coastal States.

The Minister said that the campaign would continue this year from 12 September to 19 September, with a range of activities including clean-up drives and participation of NGOs and organisations. He also highlighted the introduction of a pledge for keeping India's coastline clean, adding a citizen-participation component to the campaign.

Dr. Jitendra Singh said that the larger objective should be to develop a holistic Coastal Bharat approach in which environmental sustainability, economic opportunity, scientific capability and coastal security reinforce one another. He emphasised the need to move away from working in separate domains towards an integrated framework that can convert scientific knowledge into collaboration, research priorities and practical action for a secure, sustainable and prosperous coastal future.



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