



Navigating India's Maritime Path

This editorial is based on “[Strategic opportunity: Mazagon-CDPLC deal boosts India's maritime influence](#)” which was published in The Business Standard on 03/07/2025. The article brings into focus the strategic acquisition by India's Mazagon Dock Shipbuilders Ltd of a controlling stake in Sri Lanka's Colombo Dockyard for \$53 million, aimed at countering China's growing influence in the Indian Ocean Region.

For Prelims: [Indian Ocean Region](#), [Hambantota port](#), [Paradip Port](#), [Maritime India Vision 2030](#), [Sagarmala](#), [Green Tug Transition Program](#), [Inland Waterways Authority of India](#), [Public-Private Partnership](#), [Chabahar Port](#), [India-Middle East-Europe Economic Corridor](#), [Red Sea](#).

For Mains: Key Factors Driving Growth of India's Maritime Sector, Key Issues Associated with India's Maritime Sector.

[India's maritime ambitions](#) have taken a significant leap forward with **state-owned Mazagon Dock Shipbuilders Ltd** acquiring a controlling stake in **Sri Lanka's Colombo Dockyard for \$53 million**. This strategic move positions India to counter China's growing influence in the [Indian Ocean Region](#), where **Beijing already controls the Hambantota port with a 99-year lease**. The success of this venture could serve as a **blueprint for India's broader maritime strategy** in securing critical sea lanes and establishing itself as a reliable partner for regional allies.

What are the Key Factors Driving Growth of India's Maritime Sector?

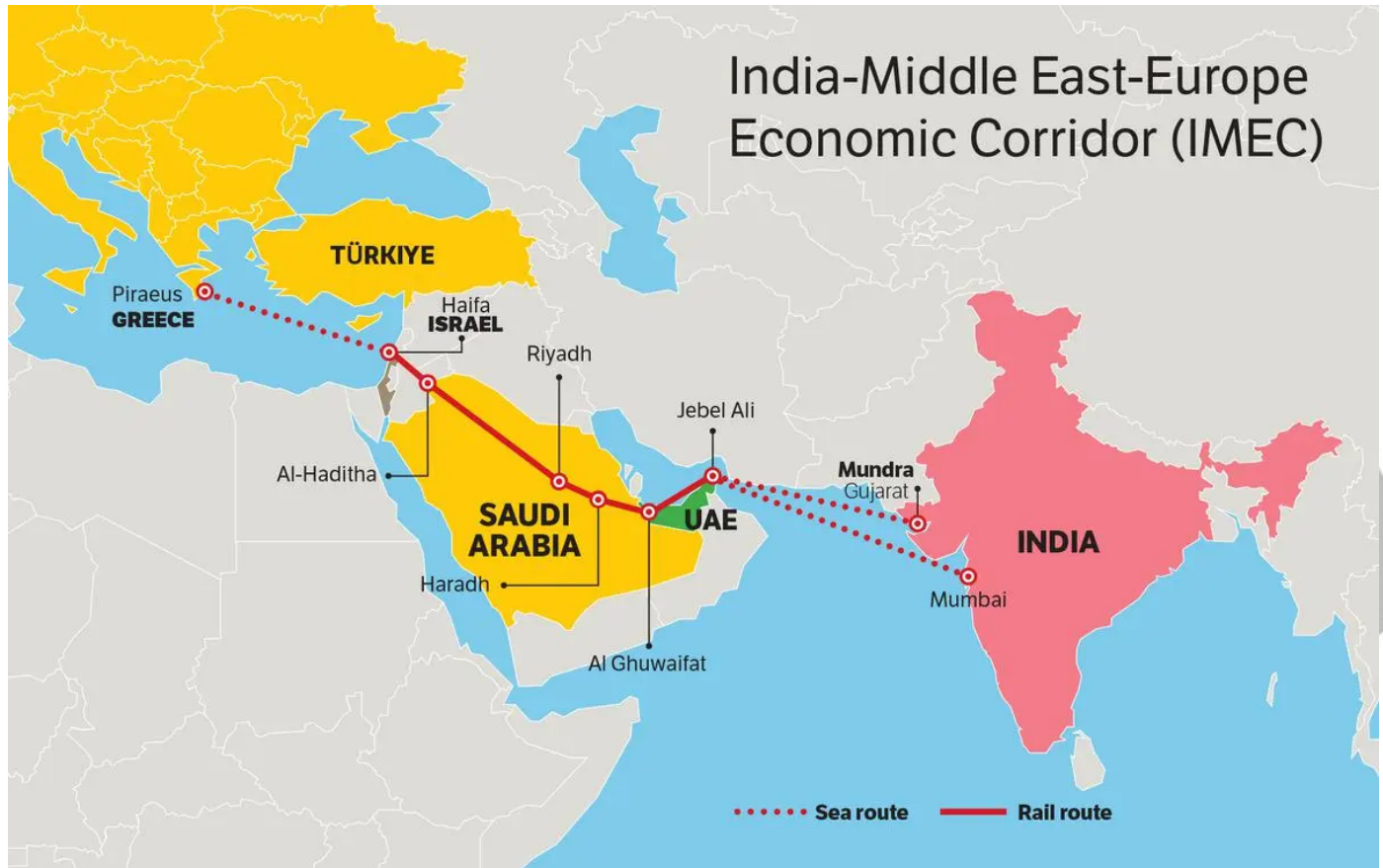
- **Port Infrastructure Modernization & Capacity Expansion:** Ongoing port modernization is crucial for boosting cargo handling capacity and operational efficiency across India's ports.
 - Enhanced infrastructure is reducing turnaround times, making Indian ports more competitive on the global stage.
 - For example, [Paradip Port's recent increase in operational efficiency led to handling 145.38 million tonnes of cargo in FY24](#), surpassing Deendayal Port.
 - Additionally, port modernization efforts have increased capacity, with major ports seeing a significant rise from 871.52 million tonnes to 1,629.86 million tonnes between 2014-2024.
- **Government Policy Support and Strategic Initiatives:** Government initiatives such as the [Maritime India Vision 2030](#) and [Sagarmala](#) aim to position India as a global maritime leader by improving port connectivity and logistics efficiency.
 - These policy frameworks focus on expanding port capacities, reducing logistics costs, and developing green maritime infrastructure.
 - The government has **allocated over ₹37,000 crore for 130 projects under Sagarmala**, ensuring a growth-oriented environment.
 - Moreover, **India's policy of allowing 100% FDI in port infrastructure has**

attracted significant foreign investment, boosting economic activity and modernizing operations.

- **Sustainability and Green Shipping Initiatives:** With a global shift towards sustainable practices, India's maritime sector is investing heavily in green technologies, such as **hydrogen and LNG-powered vessels**, and renewable energy for port operations.
 - The **Green Tug Transition Program (GTTP)**, aiming to replace conventional tugs with eco-friendly alternatives by 2040, is a prime example.
 - India is also developing green hydrogen hubs at **Paradip, Kandla, and Tuticorin ports**.
 - According to the Ministry of Ports, Shipping & Waterways, **India's green shipping initiatives align with global emission-reduction goals**, with substantial investments in renewable energy to **make ports carbon-neutral by 2030**.
- **Technological Advancements & Digital Transformation:** The rapid adoption of digital technologies such as AI, IoT, and blockchain is transforming port operations, enhancing efficiency and transparency.
 - Platforms like **SAGAR SETU, launched in 2025**, integrate over 80 ports and 40 key stakeholders, **simplifying EXIM-related processes**.
 - This digital transformation aims to cut processing times and reduce human errors, fostering a seamless logistics experience.
 - By 2024, **Jawaharlal Nehru Port reduced its container turnaround time to 22.57 hours**, surpassing global standards.
 - Additionally, the **integration of the National Logistics Portal Maritime is streamlining port operations**, improving connectivity, and reducing logistics costs.
- **Expansion of Inland Waterways:** The development of inland waterways provides an environmentally sustainable, cost-effective alternative for cargo transportation, reducing congestion on roads and railways.
 - The **Inland Waterways Authority of India (IWAI)** has identified 26 new national waterways, supporting the transport of bulk goods and passenger ferries.
 - This expansion is driving a **710% increase in cargo traffic along national waterways since 2014**.
 - As of 2023-24, **inland waterways handled 132.89 million metric tonnes (mmt) of cargo**, demonstrating the growing importance of this sector in India's trade and logistics.
- **Rise in Global Maritime Trade and India's Export Growth:** India's maritime sector is benefiting from an uptick in global trade, particularly with the country's growing exports.
 - As India targets **\$2 trillion in exports by 2030**, its maritime infrastructure is expanding to accommodate increased trade volumes.
 - In FY23, **India's merchandise exports reached \$451 billion**, with a significant share moved via sea.
- **Private Sector Participation and Investment:** The increasing involvement of private players in port operations under **Public-Private Partnership (PPP)** models is accelerating the development of India's maritime infrastructure.
 - The shift to an **80% landlord model by 2030** is expected to enhance operational efficiency and reduce costs.
 - In FY24, **major ports saw a 4.45% increase in cargo handling**, demonstrating the positive impact of private sector involvement.
 - Additionally, **Adani Ports' strategic investments in overseas ports and their expanding operations in India** contribute significantly to the sector's growth, positioning India as a key player in global maritime trade.
- **Shipbuilding and Repair Industry Growth:** India's shipbuilding and repair industry is set for significant growth, fueled by government policies like the **Shipbuilding Financial Assistance Policy (SBFAP)** and the **"Make in India" initiative**.
 - These initiatives aim to reduce India's dependency on foreign shipbuilders and boost domestic production of commercial and defense vessels.
 - The SBFAP has led to **313 vessel orders worth ₹10,500 crore (\$1.26 billion) since its launch**.
 - This growth positions India as an emerging global leader in shipbuilding and repair services.
- **Strategic Port Acquisitions and Global Integration:** India's strategy of acquiring stakes in key

international ports enhances its global maritime presence and strengthens trade ties with strategic partners.

- India's bilateral agreements, like the operational rights at [Chabahar Port in Iran](#), provide access to Central Asian markets, enhancing trade routes.
- These moves ensure greater control over international shipping lanes and reinforce India's position as a global maritime player.
- The [India-Middle East-Europe Economic Corridor \(IMEC\)](#), launched during **India's G20 presidency**, aims to cut logistics costs by 30% and transit time by 40%, making India a pivotal node in international trade.



What are the Key Issues Associated with India's Maritime Sector?

- **Aging Fleet and Low Share in Global Shipping:** India's maritime sector faces the challenge of an aging fleet, which hampers its competitiveness in the global shipping market.
 - Despite a rise in domestic ship ownership, India's share in the global fleet remains minimal, constituting **only 1.2% of global tonnage**.
 - The average age of Indian-flagged vessels was 26 years in 2022-23.
- **High Logistics Costs and Inefficient Infrastructure:** India's logistics sector, including its maritime component, is burdened by high costs that affect global competitiveness.
 - Logistics costs in India are estimated at **14-18% of GDP**, significantly higher than **the global benchmark of 8%**.
 - The inefficiency in cargo handling, outdated port infrastructure, and regulatory bottlenecks contribute to these high costs.
 - Despite improvements in container turnaround time at major ports, inefficiencies persist.
- **Environmental and Sustainability Challenges:** The maritime sector in India is under increasing pressure to address environmental concerns and meet sustainability targets.
 - The rise in **carbon emissions from shipping, particularly CO2**, presents a critical issue as India works toward its net-zero goals.
 - Indian ports and vessels are adopting cleaner technologies, but significant gaps

remain.

- **Visakhapatnam Port Authority (VPA)** utilizes **100% renewable energy**, but other ports lag behind significantly.
 - Moreover, the **Green Tug Transition Program**, aimed at phasing out **conventional tugs**, has made limited progress, highlighting the sector's slow adaptation to sustainability needs.
- **Underdeveloped Shipbuilding Industry:** India's shipbuilding industry continues to face significant challenges, including outdated infrastructure, skill gaps, and a reliance on imports for critical materials.
 - Despite efforts like the Shipbuilding Financial Assistance Policy (SBFAP) to boost domestic production, Indian shipyards lag behind global competitors in terms of technological advancements and capacity.
 - For instance, **India's share of global shipbuilding is less than 1%, while China and South Korea dominate the market.**
 - To become a global shipbuilding hub, India needs to invest heavily in modernizing its shipyards and closing the technological gap that currently exists.
- **Vulnerability of Coastal Infrastructure to Climate Change:** India's coastal infrastructure, including ports, harbors, and related facilities, **faces increasing vulnerability due to rising sea levels, storm surges, and coastal erosion.**
 - Climate change poses a direct threat to the operational capacity of ports and coastal cities, impacting trade flows and the livelihoods of coastal communities.
 - For instance, **Mumbai, one of India's largest economic hubs**, is at risk of **frequent flooding due to sea-level rise.**
 - Coastal vulnerability is a matter of concern for India as about **35% of the population lives within 100 km of the country's 7517 km long coastline.**
- **Security Concerns and Geopolitical Tensions:** The maritime sector in India faces growing security concerns, especially in light of **increasing piracy and territorial disputes in the Indian Ocean Region (IOR).**
 - India's maritime trade routes are vulnerable to threats from both **non-state actors and geopolitical tensions**, particularly with neighboring countries.
 - **Piracy off the coast of Somalia and the threat of Chinese influence in the IOR** complicate India's strategic positioning.
 - The recent **Red Sea crisis and Houthi rebel attacks** highlight the vulnerability of India to similar maritime security threats, including piracy and geopolitical tensions in the Indian Ocean Region.



- **Fragmented Governance and Regulatory Challenges:** India's maritime sector suffers from fragmented governance and regulatory inefficiencies, with multiple agencies managing different aspects of the sector.
 - This has led to **delays, increased compliance costs, and confusion among stakeholders.**
 - **Customs clearances at major ports, despite improvements, are still subject to inconsistent inter-agency coordination,** causing delays.
 - A recent sinking of the **Liberian-flagged container ship MSC Elsa 3 off the Kerala coast in May, 2025.** The vessel carried **hazardous materials like calcium carbide and sulfur,** leading to environmental concerns. The incident highlighted the gaps in India's oil spill contingency planning
- **Overdependence on Government-Controlled Ports:** India's maritime sector remains heavily dependent on government-controlled ports, limiting competition and innovation in port operations.
 - The lack of **significant private sector participation in key port operations results in inefficiency and suboptimal service quality.**
 - While the shift to the landlord model and private-sector involvement is progressing, it is not yet widespread across all major ports.
 - The ports like **Visakhapatnam and Chennai still experience challenges related to over-reliance on government control,** which can negatively impact

their operational efficiency

- **Limited Integration with Global Supply Chains:** Despite India's strategic position in global shipping lanes, its maritime sector has yet to fully integrate with international supply chains, limiting its potential to capture a larger share of global trade.
 - The country's **reliance on foreign ports for transshipment, especially at ports like Singapore, underscores this gap.**
 - **The recently inaugurated Vizhinjam Port aims to address this issue,** but such projects are few and far between.
 - India must enhance its transshipment capacity and reduce dependency on foreign ports.

What Measures can India Adopt to Enhance its Maritime Sector?

- **Accelerating Port Modernization and Digitization:** India must fast-track the modernization of its ports by integrating advanced technologies such as AI, IoT, and blockchain to **streamline operations, reduce turnaround times, and enhance cargo management.**
 - By establishing **smart ports with automated cargo handling systems** and real-time data analytics, operational efficiency can be significantly improved.
 - Additionally, creating a unified digital platform for port operations will enable seamless interaction between all stakeholders, eliminating bureaucratic delays and increasing competitiveness in the global maritime industry.
- **Developing a Robust Maritime Security Framework:** A comprehensive maritime security strategy should be implemented to **counter piracy, safeguard national interests, and secure maritime trade routes.**
 - Strengthening coordination among national defense, coast guards, and international security organizations is essential.
 - India should invest in **surveillance systems, maritime domain awareness, and regional cooperation** through the **Information Fusion Centre** to enhance security across the Indian Ocean.
 - Ensuring the safety of critical ports and trade routes is a fundamental step towards bolstering maritime trade and international relations.
- **Fostering Public-Private Partnerships (PPP) in Port Operations:** To improve efficiency and encourage innovation, India should accelerate the adoption of **public-private partnership (PPP) models in port operations.**
 - This approach will not only enhance infrastructure but also drive competition and accountability.
 - By giving the private sector greater stakes in port management and development, the maritime sector can unlock new technologies and processes that improve capacity, reduce costs, and increase operational performance across major ports and terminals.
- **Promoting Sustainable and Green Shipping Technologies:** India must incentivize the adoption of green technologies within the maritime sector, focusing on reducing emissions and adopting cleaner fuels such as **hydrogen and biofuels.**
 - Establishing a **national framework for green shipping standards**, offering subsidies for cleaner vessels, and accelerating the implementation of sustainable port infrastructure can ensure compliance with global emission reduction goals.
 - This would **not only address environmental concerns but also enhance India's position in international trade** by aligning with the global shift towards sustainability.
- **Strengthening the Shipbuilding Industry with Innovation:** To position India as a global leader in shipbuilding, it is **crucial to invest in R&D, adopt modern shipbuilding techniques, and improve the capabilities of domestic shipyards.**
 - India should focus on producing technologically advanced vessels, including **electric and hybrid-powered ships, to meet future global demand.**
 - Establishing innovation hubs for maritime technology, expanding skill development programs, and ensuring access to modern machinery will foster indigenous shipbuilding, reduce reliance on foreign shipyards, and enhance the sector's global competitiveness.
- **Revamping the Maritime Workforce through Education and Training:** The maritime sector must address the growing skill gap by establishing a national network of training centers focused on maritime engineering, port management, and logistics.
 - Collaborations with **global maritime institutions to develop specialized training programs** will ensure a workforce ready to tackle the challenges of modern shipping and

logistics.

- Additionally, initiatives to **increase female participation in the maritime workforce and enhance the safety and welfare of seafarers should be prioritized**, ensuring that the sector attracts and retains the best talent.
- **Establishing Strategic Port Hubs for Transshipment and Trade Facilitation:** India should focus on developing and expanding dedicated transshipment hubs along its coastline to capture a larger share of global maritime trade.
 - Ports such as **Vizhinjam and Kandla can be developed as international transshipment centers** by offering competitive tariff structures, efficient customs clearance, and integrated logistics services.
 - These hubs should focus on **increasing cargo handling capacity and providing value-added services like cold storage and bulk handling**, thereby positioning India as a key player in global supply chains.
- **Streamlining Maritime Regulations and Reducing Red Tape:** To encourage faster growth, India should streamline its maritime regulations by simplifying compliance procedures and cutting unnecessary bureaucratic hurdles.
 - would make it **easier for international and domestic stakeholders to engage with Indian ports and shipping lines**.
 - By creating a **single-window clearance system** for maritime permits, licenses, and customs, the government can reduce delays and costs, making the sector more attractive to investors and enhancing India's competitiveness in global trade.
- **Strengthening Regional Maritime Cooperation and Trade Agreements:** India should leverage its strategic location by actively engaging in maritime collaborations with neighboring countries to **enhance regional maritime security, improve trade relations, and establish joint port and shipping ventures**.
 - Strengthening trade agreements with key maritime nations in **Southeast Asia, Africa, and the Middle East** will foster smoother international shipping routes and facilitate trade.
 - Collaborative initiatives such as **shared port infrastructure, technology exchange, and standardized shipping practices** will further integrate India into the global maritime ecosystem.

Conclusion

India's maritime sector, while progressing with modernization and strategic acquisitions like the Colombo Dockyard, reflects the **Prime Minister's vision that "the maritime sector not only creates and facilitates economic activities; it also connects countries and civilizations."** To fully realize this vision, it is essential for India to reform its maritime sector, securing its position as a global maritime leader and effectively addressing regional challenges.

Drishti Mains Question:

India's maritime sector holds significant potential for economic growth, regional cooperation, and global strategic influence. Analyze the key issues affecting India's maritime sector and suggest measures to enhance its global competitiveness and security.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. With reference to 'Indian Ocean Rim Association for Regional Cooperation (IOR-ARC)', consider the following statements: (2015)

1. It was established very recently in response to incidents of piracy and accidents of oil spills.
2. It is an alliance meant for maritime security only.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (d)

Q. What is blue carbon?

- (a) Carbon captured by oceans and coastal ecosystems
- (b) Carbon sequestered in forest biomass and agricultural soils
- (c) Carbon contained in petroleum and natural gas
- (d) Carbon present in atmosphere

Ans: (a)

Mains:

Q. Defining blue revolution, explain the problems and strategies for pisciculture development in India. (2018)