

The Institution of Engineers India UP STATE CENTRE

National Maritime Day Celebrations 2026

Commemorating a century of maritime excellence and celebrating India's journey towards becoming a global maritime powerhouse

DEVENDRA PANDEY



NATIONAL MARITIME DAY CELEBRATIONS (NMDC 2026)



April 5th Annual Celebration

National Maritime Day commemorates the historic 1919 maiden voyage of the [SS Loyalty](#), the first Indian-owned ship to travel from Mumbai to London. This momentous journey marked a major step toward self-reliance in shipping.

The day highlights the sector's **95% contribution to India's trade volume**, honors the dedication of seafarers, and promotes sustainable "green" shipping initiatives for a cleaner maritime future.

Coastal Shipping Bill, 2025

Parliament Clears Historic Legislation to Boost Coastal Economy

230M

Metric Tonnes

Target for coastal cargo by 2030

2030

Strategic Target

Implementation timeline for infrastructure development

111

National Waterways

Declared under National Waterways Act, 2016

The Coastal Shipping Bill, 2025 establishes a comprehensive National Coastal and Inland Shipping Strategic Plan to steer future infrastructure and policy under the new Act. This landmark legislation aims to revolutionize India's coastal economy and maritime infrastructure.

7th August 2025



Theme 2026

Maritime India

Empowering Progress

The 2026 theme signifies India's strategic pivot to leverage its coastline as a central engine for economic growth, aiming to transform the nation into a **global maritime powerhouse**. It represents a comprehensive vision where modern, efficient, and green maritime infrastructure drives trade, boosts employment, and ensures national prosperity by 2030 and 2047.

Key Aspects of the Vision

Modernization & Infrastructure



Port-Led Development

Modernizing 12 major and 200+ non-major ports to increase capacity, targeting over **10,000 MTPA by 2047**



Reduced Turnaround Time

Major ports reduced vessel turnaround time from 93 hours to 48 hours, with Mundra leading global efficiency standards



Cargo Efficiency

95% of India's trade by volume moves via maritime routes, with Sagarmala driving connectivity between ports and hinterlands

Economic Growth & the Blue Economy



Boosting Trade

Positioning India as a top-five shipbuilding nation by 2047 and significantly increasing the share of Indian-flagged vessels



Job Creation

The maritime sector aims to create **10 million jobs by 2047**



Inland Waterways

Shifting cargo movement from road/rail to inland waterways, which grew **710% in cargo movement** between 2014 and 2025



Financial Power

The sector aims to contribute up to **12% of India's GDP** (up from ~4% currently)

Sustainability & Global Leadership

Green Maritime Future



Green Ports & Shipping

Implementing "Harit Sagar" guidelines to achieve carbon neutrality, using renewable energy at ports, and establishing green hydrogen/ammonia hubs



Green Tugs & Vessels

Launching India's first hydrogen fuel cell vessel and aiming for 100% green fuel in inland vessels by 2045

"Maritime India Empowering Progress" represents a multi-faceted approach linking the Blue Economy, "Make in India" initiatives, and Atmanirbhar Bharat to secure a prosperous future.

Strategic Leadership



SAGAR Initiative

"Security and Growth for All in the Region" ensures India acts as a net security provider in the Indian Ocean, protecting vital sea lanes



Global Hub

Positioning India as a leading destination for shipbuilding, ship repair, and recycling (second globally in recycling)



Overview of Sagarmala Programme

Launched in March 2015, Sagarmala Programme is a flagship initiative of the Ministry of Ports, Shipping and Waterways aimed at promoting port-led development across India.

With a coastline of approximately **11,099 km**, potentially navigable waterways of **14,500 km**, and a strategic location along major global trade routes, India possesses significant potential for maritime-led economic growth.

Enhanced Logistics Efficiency

Reducing transportation costs and boosting trade through optimized port operations

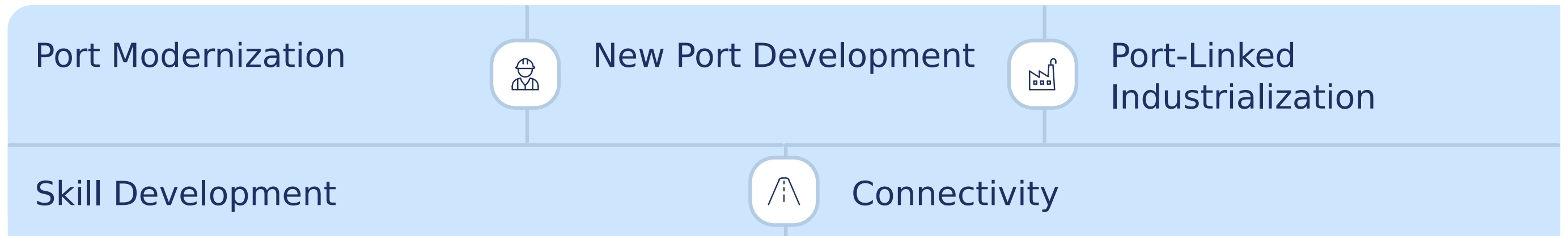
Coastal Shipping Promotion

Greater utilization of coastal shipping and inland waterways over traditional road and rail transport

Comprehensive Development

Supporting port modernization, new port development, port-linked industrialization, and coastal community skill development

Sagarmala Programme



Inland Waterways Authority of India

About IWAI

The Inland Waterways Authority of India (IWAI) is an autonomous organization constituted on 27th October 1986. Primarily responsible for development, maintenance, and regulation of national waterways declared under the National Waterways Act, 2016.

Headquarters: Noida, Uttar Pradesh

Declared Waterways: 111 National Waterways under National Waterways Act, 2016 (enacted on 12th April 2016)



- 1

National Waterway-1

Ganga-Bhagirathi-Hooghly River System (Allahabad to Haldia) - The longest and most active waterway in India, covering over 1,600 kilometers
- 2

National Waterway-2

Brahmaputra River (Sadiya to Dhubri) - Spanning over 891 kilometers
- 3

National Waterway-3

West Coast Canal - Connecting Kollam and Kochi, with extension to Kottappuram
- 4

National Waterway-4

Godavari and Krishna rivers - Stretching from Kakinada to Machilipatnam in Andhra Pradesh
- 5

National Waterway-5

East Coast Canal with Mahanadi Delta - In Odisha



National Waterways Development in India

Under the National Waterways Act, 2016, declared in March 2016, **106 additional National Waterways spanning over 24 states** have been notified for development and enhancement.

Waterway Classification System



Category I

Eight viable waterways where development activities have been initiated and infrastructure projects are underway.



Category II

46 NWs total: 24 shortlisted for Detailed Project Report preparation after feasibility study, 4 requiring additional information from consultants.



Technical Viability

18 NWs not viable due to technical and traffic issues identified during feasibility studies. Balance 52 NWs under assessment.

National Waterway-2: Brahmaputra River



Key Details

Spanning **891 kilometers** from Sadiya to Dhubri in Assam, this vital waterway serves as a major transportation artery in Northeast India.

- Connects remote regions of Assam
- Supports cargo and passenger movement
- Strategic importance for regional connectivity

National Waterway-3: West Coast Canal

Route Overview

The West Coast Canal connects **Kollam** and **Kochi**, with an extension to **Kottappuram**, serving Kerala's coastal regions.

This waterway facilitates inland water transport along India's southwestern coast, linking major ports and urban centers.





National Waterway-4: Godavari-Krishna System

Geographic Span

Connects Kakinada to Machilipatnam, utilizing Godavari and Krishna rivers in Andhra Pradesh.

Strategic Value

Links major ports on India's eastern coast, enabling cargo movement through river systems.

National Waterway-5: East Coast & Mahanadi Delta



Regional Significance

Encompasses the East Coast Canal along with the Mahanadi Delta region in Odisha, providing critical water transport infrastructure for the state.

This waterway connects inland areas to coastal ports, facilitating trade and commerce in Eastern India.

Jal Marg Vikas Project (JMVP)

A **₹5,369 crore initiative** supported by the World Bank, aimed at developing National Waterway-1 (River Ganga) between Haldia and Varanasi (1,390 km) to enable large vessel navigation.

Vessel Capacity

Facilitates 1,500-2,000 ton vessel movement with enhanced navigation infrastructure.

Terminal Development

Construction of multimodal terminals at Varanasi, Sahibganj, and Haldia, plus intermodal terminal at Kalughat.

Fairway Standards

Ensures 2.2-3.0 meter fairway depth and 45-meter bottom width for safe navigation.

Dredging Operations

Systematic dredging to maintain channel depth and width for year-round navigation.

Project Progress & Performance

1,390

Route Length (km)

Varanasi to Haldia stretch

220%

Cargo Growth

2014-15 to 2024-25 increase

16.38M

Tons (2024-25)

Annual cargo movement

Terminals at Haldia and Kalughat have been handed over to private concessionaires for operation and management, demonstrating public-private partnership success.

Infrastructure Development Progress

Terminal Status

Construction of multimodal terminals (MMT) at Varanasi, Sahibganj, and Haldia progressing with private sector involvement.

Intermodal Terminal at Kalughat operational, facilitating cargo transfer between water and land transport.





NW-1 Operations: Gaighat, Patna

Vessels berthed at High Level Jetty, Gaighat, Patna on National Waterway-1, demonstrating operational capacity and cargo handling infrastructure along the River Ganga corridor.



Vessels berthed at Low Level Jetty, Gaighat, Patna on NW-1



A Permanent terminal at GR jetty-2, Kolkata is operational since November, 2013 for handling of General Cargo.





DREDGER AT WORK









Cargo barges on the Grand Canal at Suzhou,
Jiangsu province, China.



The Yangtze River trunk line in China has remained the world's busiest inland waterway in terms of cargo throughput

Poor Development of IWT

The major reasons for the poor development of IWT in India are:

i) Very low level of investment: The level of investment on preservation and development of IWT mode in India has been abysmally low compared to road and rail modes. As a result, this mode of transportation remained underdeveloped and its share in overall internal cargo transport remained very low (less than 1% in terms of ton-kilometer). This is a great economic opportunity loss to the country. A comparison of the investment in IWT in India with that in other countries shows that the expenditure by China in IWT between 2005–2010 (five years) was US\$ 15 billion; and the budget for IWT development in Germany for the year 2012 alone was 15 billion Euros. As against this, the expenditure on IWT in India between 1986 and 2010 (25 years) was just Rs. 1117 crore, i.e., US\$ 200 million. This is considerably very low for India, which has, as per data available from various studies, a total length of 14,500 kms of navigable inland waterways.

Investment Challenges

High Development Costs

Modern multimodal terminals, jetties, ferry points, and river information systems require substantial capital investment. Ancillary facility development proves highly capital-intensive, deterring private sector participation.

Perceived High-Risk

Banks view IWT investments as high-risk propositions, creating disincentives for loan advances to private players. This perception barrier limits financial accessibility.

Negligible PPP Interventions

Public-Private Partnership models remain largely absent in inland waterways compared to robust implementation in road networks, limiting private capital infusion.



Transforming Inland Water Transport in India

A comprehensive analysis of challenges and opportunities in India's inland water transport sector, examining infrastructure gaps, investment patterns, and the path forward for sustainable multimodal integration.

Barriers to IWT Development



Lack of Convergence

Absence of unified transport policy integrating rail, road, air, and water transport modes. Private participation dominated with minimal state intervention, relegating IWT to secondary status.



Rail and Road Priority

Successive planners emphasised road and rail networks for last-mile connectivity, resulting in disproportionate infrastructure development and limited IWT investment.

The cumulative investment in IWT stands at merely ₹200 million, starkly contrasting with ₹12 billion invested in road infrastructure, highlighting the investment gap that needs bridging.



Vision: Harit Sagar

To reduce carbon intensity and develop an environment-friendly ecosystem at Major Ports through stakeholder participation, positioning ports as sustainable hubs of economic growth.



Optimize Port Procedures



Induct Green Technologies



Reduce Wastages



Lower Carbon Intensity



Harit Sagar Implementation Areas



Green Cover

Increase green area coverage to capture fugitive emissions and attenuate noise through effective plantation and landscape development in port surroundings.



Port Electrification

Transition port equipment and vehicles to electric power, reducing reliance on fossil fuels and minimising emissions from port operations.



Renewable Energy

Deploy solar, wind, and other renewable energy sources to power port facilities, achieving energy independence and sustainability targets.



Shore Power Supply

Implement shore-to-ship power systems, enabling vessels to shut down engines while docked, significantly reducing harbour emissions.



Efficient Equipment

Adopt energy-efficient port machinery and systems, optimising resource utilisation while maintaining operational productivity and throughput.



Effluent Management

Establish comprehensive wastewater treatment and discharge protocols, preventing marine pollution and protecting coastal ecosystems.



Marine Protection

Safeguard mangroves, implement ballast water management, and enforce environmental operating standards to preserve marine biodiversity.

An aerial illustration of a tropical coastline. The left side shows a steep, green cliffside meeting a sandy beach. The ocean is a vibrant blue, with several white-sailed sailboats scattered across it. The sky is light blue with soft, white clouds and a single bird in flight.

SAGAR Vision

On 12 March 2015, Prime Minister Narendra Modi enunciated India's vision for the Indian Ocean Region through **SAGAR** — Security and Growth for All in the Region.

Safeguard Mainland

Protect India's mainland and island territories through comprehensive maritime security measures.

Defend Interests

Ensure safe, secure, and stable Indian Ocean Region through proactive engagement and cooperation.



Key Takeaways

Policy Convergence Essential

Develop unified transport policy integrating all four modes — rail, road, air, and water — to enable seamless multimodal connectivity and balanced infrastructure development.

Attract Private Investment

Address high-risk perceptions through policy certainty, financial incentives, and robust PPP frameworks to unlock private capital for IWT infrastructure.

Sustainability Imperative

Implement Harit Sagar initiatives to reduce carbon intensity, protect marine ecosystems, and position ports as sustainable economic growth hubs.

Regional Cooperation

Pursue SAGAR vision through enhanced regional partnerships, ensuring secure and prosperous Indian Ocean Region for all stakeholders.

Strategic Investment Priorities



Multimodal Terminals

Develop integrated terminals enabling seamless cargo transfer between waterways and other transport modes.



Vessel Modernisation

Upgrade inland water transport fleet with modern, efficient vessels meeting environmental standards.



River Information Systems

Deploy digital navigation aids and traffic management systems for enhanced safety and efficiency.



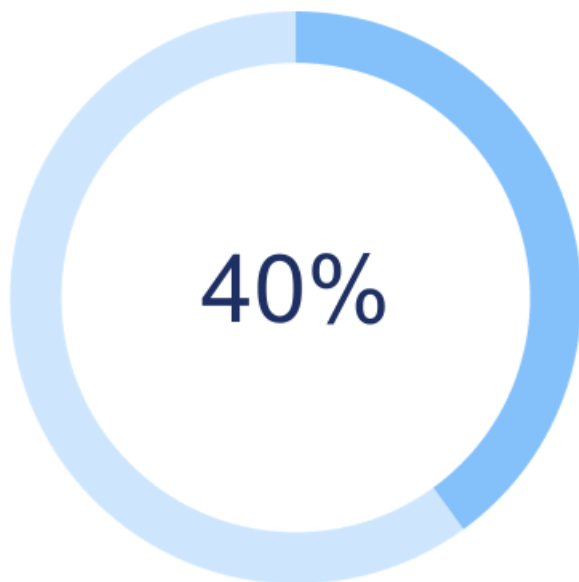
Fairway Development

Improve channel depths, remove navigational obstructions, and maintain year-round navigability.

Environmental Impact Goals

Carbon Reduction Targets

- Transition port operations to renewable energy sources
- Implement shore power supply for docked vessels
- Reduce reliance on fossil fuel-powered equipment

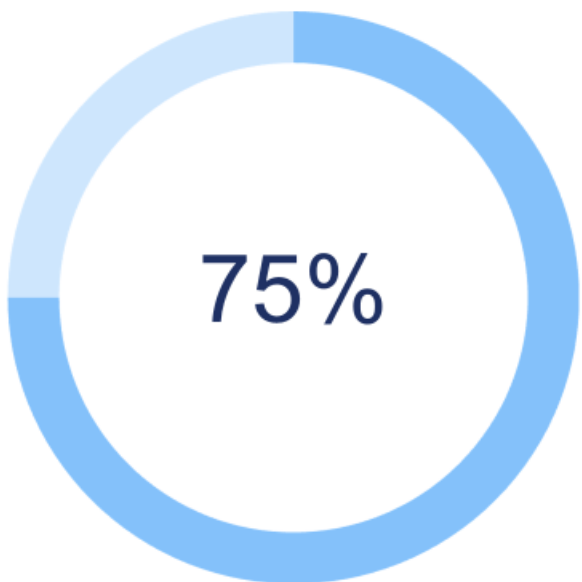


Emission Reduction

Target reduction in port-related greenhouse gas emissions

Marine Ecosystem Protection

- Preserve and restore mangrove ecosystems
- Manage ballast water to prevent invasive species
- Implement effluent treatment and discharge standards



Renewable Energy

Port energy consumption from renewable sources



Charting the Course Forward

India's inland water transport sector stands at an inflexion point, requiring coordinated policy action, innovative financing mechanisms, and sustained commitment to environmental sustainability. By addressing investment barriers and implementing Harit Sagar initiatives, India can unlock IWT's potential as a cost-effective, eco-friendly transport mode whilst pursuing SAGAR vision for regional security and prosperity.

Unified Policy Framework

Integrate IWT into national transport policy

PPP Promotion

Attract private investment through risk-mitigation

Green Transition

Implement sustainability measures at major ports

Thank You

Connecting India, Powering Progress

