Inland Water Transport in India

For Prelims: PM Gati Shakti, National Waterway, Inland Waterways Authority of India, Multi-Modal Logistics Park, PM MITRA parks, Mega Food Parks

For Mains: Role of Inland Waterways in India's transportation network, Infrastructure & Development

Source: PIB

Why in News?

National Waterway-57 (Kopili River) in Assam has been operationalised, boosting **Inland Water Transport** under **Maritime India Vision 2030** and **PM Gati Shakti.**

- Now, **four** National Waterways in Assam- **Brahmaputra (NW 2), Barak (NW 16), Dhansiri (NW 31), and Kopili (NW 57)**, are fully operational.

Key Facts Related to Inland Waterways and Transport in India

- **Inland Waterways: Inland Waterways** are stretches of water such as **navigable rivers, lakes, and canals** (excluding the sea), used for transporting goods and people.
  - **Key Features:** For a waterway to be classified as an inland waterway, it must support vessels with a **minimum carrying capacity of 50 tonnes** when fully loaded.
    - **National Transport Policy Committee (1980)** recommended the following few criteria for declaring a national waterway:
      - **45m wide channel** and a **minimum depth of 1.5m**.
      - **Continuous stretch** of at least **50 km**, with exceptions for urban or intra-port areas.
    - The **Inland Waterways Authority of India (IWAI)**, established in **October 1986**, is the **nodal agency** for the **development and regulation** of **inland waterways** for **shipping and navigation.**
    - Only **National Waterways** are under the **Central Government**; others fall under **State Government** jurisdiction.
- **Inland Water Transport (IWT):**
  - **About: Inland Water Transport (IWT)** involves the movement of cargo and passengers through **navigable rivers, canals, backwaters, and creeks**. It is **cost-effective** and **environmentally sustainable**.
    - India has **14,500 km of navigable waterways.**
  - **Legislative Framework:**
    - **Inland Waterways Authority of India Act, 1985** established **IWAI** to oversee the development and management of IWT.
    - **National Waterways Act, 2016** declared **111 inland waterways** as National Waterways.
    - **Inland Vessels Act, 2021** introduced to streamline regulations around inland vessels, ensuring safe, efficient, and modern water transport.

        - The **National Waterways (Construction of Jetties/Terminals) Regulations, 2025** aims to **boost private investment and streamline terminal development.**
    - **Growth of IWT in India:**
        - **Operational National Waterways (NWs)** grew by an impressive **767%** from 3 (2014-15) to 29 (2024-25).
        - The **total operational length of National Waterways** expanded from 2,716 km (2014-15) to 4,894 km (2023-24).
        - **Cargo traffic surged dramatically** from 18.07 MMT (2013-14) to **133 MMT (2023-24),** reflecting a **CAGR** of 22.10%**.**
    - **Future Projections:** The IWAI aims to increase the **freight share of inland waterways from 2% to 5% by 2030**, with a target of 200+ MMT of cargo traffic.
        - By 2047 (Maritime Amrit Kaal Vision), India aims to achieve **500+ MMT of cargo movement via inland waterways.**

How Can Inland Waterways Support India's Maritime Vision 2030?

- **Eco-friendly Transport: IWT** is an environmentally friendly option, emitting only **32-36 g CO_2 per ton-km**, far lower than **51-91 g by road**.
    - It causes **negligible noise and water pollution**, aligning with India's **Maritime India Vision 2030** and **Panchamrit** climate goals.
    - IWT seamlessly **integrates with rail, road, and sea transport,** strengthening multimodal logistics hubs and also aids in **decongesting transport systems**, facilitating **faster cargo movement.**
- **Cost-effective & Fuel Efficient: IWT** is the most **cost-effective** mode of transport, costing just **Rs 0.25-0.30 per ton-km**, significantly cheaper than **Rs 1.0 by rail** and **Rs 1.5 by road**.
    - It is also highly **fuel-efficient**, moving **105 ton-km per litre**, compared to **85 by rail** and **24 by road**.
- **Logistics & Economic Gains:** Inland Waterways can reduce **logistics costs from 14% to 9% of GDP**, saving India approximately **USD 50 billion annually.**
    - This improves India's global competitiveness, helping achieve the goal of becoming a **top 25 logistics performer by 2030.**
    - Inland **cruise tourism** & **ferry services** on rivers like **Ganga**, **Brahmaputra**, **Kerala backwaters** boost **employment**, promote **eco-tourism**, and align with **Blue Economy goals**.
- **Strategic Connectivity:** IWT requires **minimal land acquisition,** avoiding displacement and **ecological disruption.**
    - It ensures **last-mile access to remote and eco-sensitive regions**, such as the **Northeast, and Sundarbans.**
    - It also supports **national security and disaster resilience** by enabling efficient movement of goods and personnel during emergencies.

Maritime India Vision (MIV) 2030

- **About: Maritime India Vision (MIV) 2030** is a **strategic blueprint** to position India as a **global maritime hub**, focusing on enhancing **port-led development** and **blue economy growth**.
- **Objective:** It outlines **150 initiatives** under **10 core themes**, including **port infrastructure**, **logistics efficiency**, **shipbuilding**, **coastal and inland waterways**, **technology adoption**, and **environmental sustainability**.
- **Key Targets:**

MIV 2030 – Key targets

	Key Performance Indicator	Current (2020)	Target (2030)
1	Major Ports with >300 MTPA cargo handling capacity	-	3
2	% of Indian cargo transshipment handled by Indian ports	25%	>75%
3	% of cargo handled at Major Ports by PPP/ other operators	51%	>85%
4	Average vessel turnaround time (containers)	25 hours	<20 hours
5	Average container dwell time	55 hours	<40 hours
6	Average ship daily output (gross tonnage)	16,500	>30,000
7	Global ranking in ship building and ship repair	20+	Top 10
8	Global ranking in ship recycling	2	1
9	Annual cruise passengers	4,68,000	>15,00,000
10	% share of Indian seafarers across globe	12%	>20%
11	% share of renewable energy at Major Ports	<10%	>60%

What are the Key Challenges in Unlocking the Full Potential of Inland Waterways in India?

- **Seasonal Navigability Constraints**: Most Indian rivers are **non-perennial**, with significant **depth fluctuations** during dry seasons, limiting **year-round navigation**.
- **Infrastructure Gaps**: **National Waterways** lack essential infrastructure such as **jetties, terminals, vessels**, and **navigational aids**.
    - There's inadequate **multimodal integration**, **poor mapping of industrial clusters**, and **high capital costs** with limited access to **financing**.
- **Inadequate Depth:** Many waterways **lack the required draft (minimum water depth),** limiting navigation for large cargo vessels and reducing efficiency and cargo capacity.
- **Underutilisation of Waterways:** Only **3.5% of trade in India** moves via waterways, much lower than China (47%), Europe (40%), and Bangladesh (35%), signaling underuse of the potential.
- **High Siltation & Environmental Concerns**: **Frequent siltation** requires **regular and costly dredging** to maintain the necessary **channel depth** and ensure **navigability**.
    - **Limited first/last-mile connectivity** and time delays push industries towards **road/rail** transport.
    - **Dredging and port developments** also degrade **aquatic ecosystems** and disrupt **riverine communities**.

What are the Key Initiatives to Boost Inland Waterways?

- **Jalvahak-Cargo Promotion Scheme (2024)**: Aimed at **incentivising modal shift** from road/rail to IWT with a **35% reimbursement of operational costs** for cargo owners.
- **Extension of Tonnage Tax:** Announced in **Union Budget 2025–26** to promote **tax certainty** and boost **private investment** in **IWT**.

- **Port Integration:** Multi-modal terminals being integrated to streamline cargo handling between ports and IWT.
- **Digitisation & Centralised Database:** A **unified digital portal** for vessel and crew registration to enhance **transparency**, **logistics planning**, and **ease of doing business** in **IWT.**
- **Eastern and western Dedicated Freight Corridors (DFCs)**
- **Sagarmala Project**
- **Jal Marg Vikas Project**
- **PM Gati Shakti**

What Measures Should be Taken to Improve the IWT in India?

- **Integrated & Sustainable Infrastructure Development:** Enhance multimodal connectivity under **PM Gati Shakti** and **Sagarmala** by linking IWT with rail, road, and coastal networks.
    - Revive dormant waterways (e.g., **Kopili model**) in states like Bihar, Odisha, and West Bengal with **sustainable dredging**, **EIA compliance**, and **green vessels** for eco-friendly navigation.
- **Private Participation & Financial Incentives:** Promote **PPP** in vessel manufacturing, terminal development, and cargo handling by offering **tax benefits**, **financial incentives**, and setting up **Inland Waterways Development Funds**.
    - Encourage innovation in logistics through **e-platforms**, **River Information Systems (RIS)**, and **GPS tracking**.
- **Cargo & Passenger Movement Boost:** Integrate IWT with economic hubs like **PM MITRA Parks** and **Mega Food Parks** to improve cargo flows.
    - Expand passenger transport via **Cruise Bharat Mission** and incentivize cargo movement under the **Jalvahak Scheme** through scheduled services on key **National Waterways**.
- **Capacity Building & Community Development:** Invest in skilling workforce in riverine areas for IWT operations and maintenance.
    - Conserve traditional navigation through **Riverine Community Development Scheme**, fostering employment and sustainable livelihoods at the grassroots level.

Conclusion

Inland Water Transport (IWT) is a cost-effective, fuel-efficient, and eco-friendly mode of cargo movement. Its development under initiatives like **Sagarmala** and **PM Gati Shakti** can Strengthen IWT to achieve **sustainable logistics** and India's **USD 5 trillion economy** vision.

Drishti Mains Question:

Discuss the potential and challenges of Inland Water Transport (IWT) in India. Suggest measures for its effective integration into the national logistics network.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. Enumerate the problems and prospects of inland water transport in India. (2016)

PDF Refernece URL: https://www.drishtiias.com/printpdf/inland-water-transport-in-india