

**WRAP Exams · wrapexams.com**

Prelims PYQ, Mains model answers, and copy evaluation. Write to the desk for this paper, a doubt, or the AI waitlist.

**ask@wrapexams.com · +91 85951 84903 · wrapexams.com**

Q19

**Enumerate the problems and prospects of inland water transport in India.**

UPSC Civil Services Mains 2016 · GS I · 12 marks · World's Physical Geography

Salient features of world's physical geography.

**Core demand of the question**

- Enumerate the problems of inland water transport in India
- Then set out the prospects if those problems are tackled

**Revision summary**

India's rivers could carry bulk cheaply but lack year-round depth and modern terminals.

Silt, seasonal flow, low bridges, and poor rail-road links are the core problems.

NW-1 on the Ganga, NW-2 on the Brahmaputra, and NW-3 in Kerala are the main prospects.

Jal Marg Vikas and Bangladesh protocol routes can open the eastern hinterland.

Prospects hold only if dredging, bridge height, and multimodal cargo are maintained together.

**Introduction**

India has thousands of kilometres of rivers, canals, and creeks, yet inland waterways still carry only a thin slice of freight. The problems are depth, silt, seasonal flow, and weak last-mile links. The prospect is cheap, lower-carbon bulk movement if those gaps are closed.

**Body****Problems of inland water transport**

- Many rivers are seasonal; in the lean months draft is too shallow for a loaded barge, so operators cannot promise a year-round schedule.
- Silt from the Himalaya and from eroded catchments fills channels faster than dredgers can work, especially on the Ganga and Brahmaputra.
- Barrages, low bridges, and unplanned cables create air-draft and lock problems; a national waterway is not navigable if one span is too low.
- Night navigation aids, jetties, and terminals are few, so turnaround is slow compared with a railway siding.
- **Multimodal links are weak:** a barge that cannot meet a rail rake or a road truck at a modern terminal loses the cost advantage.
- Private fleet, trained crew, and cheap insurance are still thin; banks see inland shipping as a risky, monsoon-stopped business.
- Inter-state coordination, environmental clearance for dredging, and fishing or riverine community rights slow projects.

- Competition from rail freight corridors and highways, plus under-priced road diesel externalities, makes water look slower even when it is cheaper per tonne-kilometre on paper.
- North-East and delta creeks face security, border, and shifting-channel problems that plains canals do not.

### Prospects if the system is built

- **National Waterway-1** (Haldia-Allahabad/Prayagraj on the Ganga) can move coal, fly ash, foodgrain, and containers if least available depth is held and Varanasi-Sahibganj-Haldia terminals work.
- NW-2 on the Brahmaputra can cut the cost of reaching Assam if Bangladesh protocol routes stay open and dredging is honest.
- NW-3 in Kerala's west-coast canal, and later Goa and Maharashtra creeks, suit fertiliser, fuel, and local cargo where the sea is close.
- The **Jal Marg Vikas Project** and the **Inland Waterways Authority of India** give a policy spine that did not exist when only a few states ran ferries.
- Lower fuel use per tonne and less road congestion are real gains for coal to power plants and for construction material into cities.
- River tourism and passenger ferries, as in Kerala and on stretches of the Ganga, can subsidise some terminal overheads if safety is enforced.
- Protocol routes with Bangladesh turn the North-East from a dead end into a water-linked market.
- If freight corridors feed riverside terminals, inland water becomes the third leg of a logistics triangle, not a museum of steamers.

### Conditions for the prospect to materialise

- Maintain depth as a public good, like a rail track, not as a one-time launch event.
- Fix bridge heights and locks in the same plan as dredging.
- Give barge operators a stable tariff and a working multimodal law so cargo books a river leg by default for bulk.

### Way forward for the answer

- List silt, seasonality, structures, terminals, and multimodal gaps as problems; list NW-1 to NW-3, Jal Marg Vikas, Bangladesh protocols, and bulk cargo as prospects.

### Flow diagram

Silt seasonal draft low bridges -> Low IWT share

Terminals multimodal fleet -> Low IWT share

NW1 NW2 NW3 Jal Marg -> Cheaper bulk freight

Bangladesh protocol -> Cheaper bulk freight

### Conclusion

Inland water transport in India is held back by shallow seasonal channels, silt, low bridges, and weak terminals. The prospect is substantial for bulk and North-East cargo if National Waterways keep depth, join rail and road, and treat the river as a working track rather than a ceremony.

## Facts & figures

### Inland Waterways Authority of India

Statutory body (1986) that develops and regulates national waterways.

### National Waterway-1

Ganga-Bhagirathi-Hooghly stretch from Prayagraj to Haldia, the flagship freight waterway.

### Jal Marg Vikas Project

Capacity-augmentation project on NW-1 for least available depth, terminals, and navigation aids.

### National Waterway-2

Brahmaputra stretch important for Assam and for links through Bangladesh protocol routes.

### National Waterways Act, 2016

Law that declared a large number of additional national waterways, expanding the legal map of IWT.

---

WRAP Exams · Write. Read. Analyse. Practice. · <https://wrapexams.com/upsc/mains-answers/gs-1/2016/enumerate-the-problems-and-prospects-of-inland-water-transport-in-india/> · [ask@wrapexams.com](mailto:ask@wrapexams.com) · [wrapexams.com](https://wrapexams.com)