

FILE NO. IWT-11011/40/2019-IWT  
GOVERNMENT OF INDIA  
MINISTRY OF SHIPPING  
(IWT SECTION)

Transport Bhawan  
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New Delhi-110001

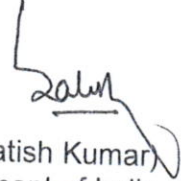
Dated: 31.05.2019

**OFFICE MEMORANDUM**

**Sub:- Brief on Inland Water Transport in respect of IWT Wing for uploading on the website of Ministry of Shipping-reg.**

The undersigned is directed to refer to your O. M. No. IWT-11011/31/2017-IWT dated 15<sup>th</sup> April, 2019 on the subject mentioned above and to say that a "Brief on Inland Water Transport" in respect of IWT Wing, duly approved is enclosed for information and further necessary action.

Encl.: As above



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To,  
Shri A. K. Singh,  
Under Secretary (SU Section)

*o/c  
issued  
3/6/19*

## BRIEF ON INLAND WATER TRANSPORT

India has an extensive network of inland waterways in the form of rivers, canals, backwaters and creeks. Freight transportation by waterways is highly underutilized in the country as compared to developed countries. India's hinterland connectivity is mainly based on road and rail with domestic waterways—both coastal shipping and inland waterways—playing a limited role. Globally domestic waterways are found to be cost effective as well as environmentally friendly means of transporting freight. This is also true in India—for instance—cost of moving freight is quite low as compared to other modes of transport i.e. road and rail. Inland Water Transport (IWT) has a potential to supplement the over-burdened Railways and congested roadways. In addition to cargo movement, IWT sector may provide a convenient function in related activities such as carriage of vehicles {on Roll-on-Roll-off (Ro-Ro) mode of cross ferry} and tourism including stay and entertainment.

2. In consideration of the above, Government through enactment of the National Waterways Act, 2016 declared 106 new waterways as National Waterways (NWs) in addition to existing 5 NWs, which cover a total length of 20,275 kms spread across 24 States in the country. The list of 111 NWs is at **Annex-1**.
3. IWT Wing in Ministry of Shipping is responsible for development, management, implementation of capacity building and institutional strengthening initiatives in the NWs. The Wing is headed by Senior Economic Advisor, who is supported by Director (IWT), Under Secretary (IWT) and IWT Section.
4. The policy guidelines and directions issued by IWT Wing are implemented by Inland Waterways Authority of India (IWAI), an autonomous organization constituted on 27<sup>th</sup> October, 1986 under Waterways Authority of India Act, 1985. IWAI is primarily responsible for development, maintenance and regulation of those waterways which have been declared as NWs by National Waterways Act, 2016. The head office of IWAI is at Noida, UP.
5. Allocated budget and Expenditure of IWAI from the year 2014-15 onwards is given at **Annexure-2**.

In consideration of the above, National Waterways 1, 2, 3, 4 and 5 can be developed to play an important role in transportation.

### 6. Key Initiatives

- **Development of NW-1** - With a length of 1620 km, NW1 is the longest waterway in India. It is a stretch of the Ganga-Bhagirathi-Hoogly river system from Allahabad to Haldia. Key opportunities lie in 11 major power plants being located on the banks of NW-1 with a cumulative capacity of 12,000 MW.

For capacity augmentation on Haldia-Varanasi stretch, Jal Marg Vikas Project (JMVP) has been implemented on National Waterway (NW)-1 with the technical and financial assistance of the World Bank at an estimated cost of Rs. 5369.18 crore.

Funding pattern:-

- IBRD loan component: Rs. 2, 512 crore (US\$ 375 million)
- Government of India counterpart funds: Rs. 2, 556 crore (US\$ 380 million), to be sourced from budgetary allocation and proceeds from bond issue
- Private sector participation under PPP mode: Rs. 301 crore (US\$45 million)

## Major Interventions:-

(i)	Fairway Development
(ii)	Construction of the multi-modal terminal at Varanasi
(iii)	Construction of the multi-modal terminal at Sahibganj
(iv)	Construction of the multi-modal terminal at Haldia
(v)	Construction of an inter-modal terminal at Kalughat
(vi)	Construction of an inter-modal terminal at Ghazipur
(vii)	Construction of a new navigation lock at Farakka
(viii)	Provision of navigational aids
(ix)	Construction of five pairs of Roll on-Roll off (Ro-Ro) terminals
(x)	Construction of Integrated Ship Repair and Maintenance Complexes
(xi)	Provision of River Information System (RIS) and Vessel Traffic Management System (VTMS)
(xii)	Bank Protection works

## Implementation strategy/and targets:-

- Fairway development through performance based contract for least assured depth of 2.2 m to 3 m and bottom channel width of 45 m, bank protection works, and provisions of navigation aids.
- Civil works through EPC contract.

## Major interventions and their completion timeline:-

Sl. No.	Major milestones	Time Frame for completion/ Target date
1.	Fairway Development	March, 2023
2.	Construction of Phase-I of multi-modal terminal at Varanasi	November, 2018 (Completed)
3.	Construction of Phase-I of the multi-modal terminal at Sahibganj	March, 2019
4.	Construction of multi-modal terminal at Haldia	March, 2019
5.	Construction of inter-modal terminal at Kalughat	March, 2020
6.	Construction of inter-modal terminal at Ghazipur	March, 2020
7.	Construction of intermodal terminal at Tribeni/Kalyani	March, 2020
8.	Construction of new navigational lock at Farakka	March, 2019.
9.	Integrated Vessel Repair & Maintenance Complexes	March, 2020
10.	Construction of Ro-Ro jetties	March, 2020
11.	Vessel Procurement	March, 2019
12.	Land Acquisition and R&R/RAP	March, 2019

11.	Provision of River Information System (RIS) and Vessel Traffic Management System (VTMS)	March, 2020
12	Bank protection works	December, 2019

Major Impact:-

- Alternative mode of transport that will be environment friendly and cost effective. The project will contribute in bringing down the logistics cost in the country.
- Mammoth Infrastructure development like multi-modal and inter-modal terminals, Roll on- Roll off (Ro-Ro) facilities, ferry services, navigation aids.
- Socio-economic impetus; huge employment generation.
- **Development of NW-2:-** This waterway, stretching for a distance of 891 km from Dhubri to Sadiya, has immense potential to cater to the traffic in the north eastern region of the country. Basic commodities like food grains, fertilizers, etc. can be transported through the route. Three pairs of Ro-Ro services: At Dhubri-Hatsingmari, Neamati-Kamlabari and Guwahati- North Guwahati introduced by IWAI. A permanent Ro-Ro -cum-IWT terminal had been constructed at Dhubri. A Ship repair facility is being set up at Pandu. NW-2 is being planned for enhance connectivity with NW-1 through IBP Route.
- **Development of NW-3:-** This waterway stretching for a distance of 205 km from Kottapuram to Kollam including Champakara and Udyogmandal Canals. NW-3 is fully navigable & operational. 24 hours navigational aids in entire stretch of NW-3 are provided for round the clock navigation. Eight (08) nos. permanent terminals have been constructed for transportation of cargo along the waterways.
- **Development of NW-4:-** Out of total stretch of 3000 Km in NW-4, IWAI is implementing phase-I i.e. Muktyala to Vijaywada stretch of Krishna river covering a distance of 82 Km with an investment of Rs. 96 crore. This stretch of NW-4 has been made operational for cargo and passenger movement. The project is facilitating the movement of construction material for Amravati, the new capital of Andhra Pradesh. This waterway which connects the upcoming capital of Amaravati to the coastal parts of the state is extremely important for the development of new industrial hinterlands proposed under the various nodes of Visakhapatnam Chennai Industrial Corridor. The stretch will have a potential to transport 3-5 MTPA of bulk commodities by 2020.
- **Development of NW-5 -** The significance of NW-5 lies in its location close to Talcher-Paradip region which is abundant in resources and industries and therefore provide opportunities for evacuation of different commodities including thermal coal, coking coal and iron-ore. Financial considerations in terms of revenue and expenditure for both the barge owners and IWAI present a strong case for moving cargo on NW-5 after relevant infrastructural improvements. A number of steps in terms of infrastructural projects are required to be undertaken to make the project feasible. These include dredging to ensure minimum draft of 2.5-3 m and ensuring channel width of 55-60 m. Other steps include building at least 5 barrages with navigational locks and a barge jetty/terminal at Paradip, Talcher and Kalinganagar.
- **Other potential Waterways :-**

(i) **River Barak (NW-16):-** Proposal for development at a cost of Rs. 76.01 crore has been approved for phase -1 of NW-16 from Silchar to Bhanga. Maintenance dredging for fairway development work in Silchar-Bhanga stretch is to be completed shortly. DPR for the upgradation of terminals at Badarpur and Karimganj completed and to be tendered by Jun, 2019.

(ii) **River Gandak (NW-37):-** Proposal for development at a cost of Rs. 12.91 crore had been approved and fairway maintenance work has commenced.

(iii) **Waterways in Goa (NW-27-Cumberjua, NW 68 – Mandovi & NW 111 – Zuari):-** A proposal for the development of NWs in Goa at an estimated cost of Rs. 22.65 crore had been approved. Work is being executed through Mormugao Port Trust in consultation with Government of Goa. A Tripartite MoU had signed for the commencement of works.

(iv) **Alappuzha – Kottayam – Athirampuzha Canal (NW-9):-** Proposal for development of the waterway at an estimated cost of Rs. 1.60 crore had been approved. Tendering for night navigation facilities had been completed. Dredging is proposed departmentally.

(v) **River Rupnarayan (NW-86):-** Proposal for development of the waterway at an estimated cost of Rs. 24 crore had been approved. Work had been awarded for setting up of floating terminal.

(vi) **Sunderbans Waterways (NW-97):-** Proposal for the development of waterway at an estimated cost of Rs. 18.10 crore has been sanctioned/approved. Work of dredging and floating terminals awarded.

• **International Cooperation in Inland Water Transportation:-**

(a) **Bangladesh**

• Cooperation governed by the Protocol on Inland Water Transit and Trade (PIWTT), 1972.

• Agreements signed on Coastal Shipping, Cruise Shipping and Chattogram and Mongla Ports.

• Project for dredging in selected stretches of Bangladesh waterways, to attain connectivity between NW-1 (Ganga) and NW-2 (Brahmaputra) approved, tendered and commenced. India to undertake 80% of the project cost of Rs. 326 crore.

(b) **Myanmar-Kaladaan project**

• Connectivity between Haldia/Kolkata by sea up to Sittwe (539 km) through IWT up to Paletwa (158 KM) and by road (121 km) to Indo – Myanmar Border to Mizoram.

• Phase-I completed- Sea-dredging and IWT terminal in Sittwe port, dredging on Sittwe – Paletwa stretch of Kaladan river, IWT terminal at Paletwa and 6 IWT vessels.

• Phase II- Container handling facility at Sittwe & Paletwa (in tender stage) and Wreck removal (completed)

• Road construction has just commenced

(c) **Nepal**

• Inland Waterway connectivity with Nepal through –

• NW-37 (Gandak) and NW-58 (Kosi).

• Sahibganj MMT and Kalughat Terminal under JMVP.

• Indo-Nepal Protocol Treaty to be modified to include 'Inland Waterways' as a new mode of transport connectivity.

- Technical visits undertaken by delegations of Nepal and India to study the IWT potential and facilities.

(d) **Upcoming interventions on National Waterways :-**

- Development of NW-53 (Thane-Kalyan-Vasai Creek) in Maharashtra from Vasai to Kalyan for a distance of 50 km for implementation of Ro-Pax services
- Development of NW-4, phase-II (Kakinada canal, Eluru canal & Rajahmundry to Pollavaram)
- Development of NW-5, phase-I from Dhamra/Paradip Port to Pankapal in Odisha
- Development of NW-8 (Alappuzha – Changanassery canal) linking NW-3 in Kerala
- Implementation of Ro-Ro services on NW-95 (Subansiri River) in Assam
- Fairway development in Indo-Bangladesh Protocol route for assured connectivity with North East region i.e. NW-2 (Brahmaputra) & NW-16 (Barak)
- Operationalization of Kolaghat terminal on NW-86 (Rupnarayan river), proposed "Extended Port of Call" for to and fro movement of cargo from Bangladesh.

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### LIST OF NATIONAL WATERWAYS DECLARED BY NATIONAL WATERWAYS ACT, 2016

Government of India has declared 111 waterways as National Waterways through National Waterways Act, 2016 enacted on 12.04.2016. These are:-

Sl. No.	National Waterway No.	Length (km)	Details of Waterways	STATES
1	National Waterway 1	1620	Ganga-Bhagirathi-Hooghly River System (Haldia - Allahabad)	Uttar Pradesh, Bihar, Jharkhand & West Bengal
2	National Waterway 2	891	Brahmaputra River (Dhubri - Sadiya)	Assam
3	National Waterway 3	205	West Coast Canal (Kottapuram - Kollam), Champakara and Udyogmandal Canals	Kerala
		170	West Coast Canal (Kottapuram - Kozhikode)	
4	National Waterway 4	50	Kakinada Canal (Kakinada to Rajahmundry)	Andhra Pradesh, Telangana, Chhattisgarh, Karnataka, Tamil Nadu, Puducherry and Maharashtra
		171	Godavari river (Bhadrachalam to Rajahmundry)	
		139	Eluru Canal (Rajahmundry to Vijayawada)	
		157	Krishna river (Wazirabad to Vijayawada)	
		113	Commamur Canal (Vijayawada to Peddaganjam)	
		316	North Buckingham Canal (Peddaganjam to Central Station of Chennai)	
		110	South Buckingham canal (Central Station of Chennai to Marakanam)	
		22	Marakanam to Puducherry through Kaluvelly tank	
		1202	River Godavari (Bhadrachalam - Nashik)	
		636	River Krishna (Wazirabad - Galagali)	
		256	East Coast Canal and Matai river	
5	National Waterway 5	265	Brahmani-Kharsua-Dhamra rivers	Odisha and West Bengal
		67	Mahanadi delta rivers (Consisting of Hansua river, Nunanala, Gobrinala, Kharnasi river and Mahanadi river)	

Sl. No.	National Waterway No.	Length (km)	Details of Waterways	STATES
6	National Waterway 6	68	AAI RIVER	Assam
7	National Waterway 7	90	AJOY (AJAY) RIVER	West Bengal
8	National Waterway 8	29	ALAPPUZHA- CHANGANASSERY CANAL	Kerala
9	National Waterway 9	40	ALAPPUZHA- KOTTAYAM - ATHIRAMPUZHA CANAL	Kerala
10	National Waterway 10	45	AMBA RIVER	Maharashtra
11	National Waterway 11	99	ARUNAWATI - ARAN RIVER SYSTEM	Maharashtra
12	National Waterway 12	5.5	ASI RIVER	Uttar Pradesh
13	National Waterway 13	11	AVM CANAL	Kerala & Tamil Nadu
14	National Waterway 14	48	BAITARNI RIVER	Odisha
15	National Waterway 15	135	BAKRESWAR - MAYURAKSHI RIVER SYSTEM	West Bengal
16	National Waterway 16	121	BARAK RIVER	Assam
17	National Waterway 17	189	BEAS RIVER	Himachal Pradesh & Punjab
18	National Waterway 18	69	BEKI RIVER	Assam
19	National Waterway 19	67	BETWA RIVER	Uttar Pradesh
20	National Waterway 20	95	BHAVANI RIVER	Tamil Nadu
21	National Waterway 21	139	BHEEMA RIVER	Karnataka & Telangana
22	National Waterway 22	156	BIRUPA - BADI GENGUTI - BRAHMANI RIVER SYSTEM	Odisha
23	National Waterway 23	56	BUDHA BALANGA	Odisha
24	National Waterway 24	61	CHAMBAL RIVER	Uttar Pradesh
25	National Waterway 25	33	CHAPORA RIVER	Goa
26	National Waterway 26	51	CHENAB RIVER	Jammu & Kashmir
27	National Waterway 27	17	CUMBERJUA RIVER	Goa
28	National Waterway 28	45	DABHOL CREEK - VASHISHTI RIVER SYSTEM	Maharashtra
29	National Waterway 29	132	DAMODAR RIVER	West Bengal
30	National Waterway 30	109	DEHING RIVER	Assam
31	National Waterway 31	114	DHANSIRI / CHATHE	Assam
32	National Waterway 32	63	DIKHU RIVER	Assam
33	National Waterway 33	61	DOYANS RIVER	Assam
34	National Waterway 34	137	DVC CANAL	West Bengal
35	National Waterway 35	108	DWAREKESWAR RIVER	West Bengal
36	National Waterway 36	119	DWARKA RIVER	West Bengal
37	National Waterway 37	296	GANDAK RIVER	Bihar & Uttar Pradesh

Sl. No.	National Waterway No.	Length (km)	Details of Waterways	STATES
38	National Waterway 38	62	GANGADHAR RIVER	Assam & West Bengal
39	National Waterway 39	49	GANOL RIVER	Meghalaya
40	National Waterway 40	354	GHAGHRA RIVER	Bihar & Uttar Pradesh
41	National Waterway 41	112	GHATAPRABHA RIVER	Karnataka
42	National Waterway 42	514	GOMTI RIVER	Uttar Pradesh
43	National Waterway 43	10	GURUPUR RIVER	Karnataka
44	National Waterway 44	63	ICHAMATI RIVER	West Bengal
45	National Waterway 45	650	INDIRA GANDHI CANAL	Punjab , Haryana & Rajasthan
46	National Waterway 46	35	INDUS RIVER	Jammu & Kashmir
47	National Waterway 47	131	JALANGI RIVER	West Bengal
48	National Waterway 48	590	JAWAI-LUNI-RANN OF KUTCH RIVER SYSTEM	Gujarat & Rajasthan
49	National Waterway 49	110	JHELMUM RIVER	Jammu & Kashmir
50	National Waterway 50	43	JINJIRAM RIVER	Assam & Meghalaya
51	National Waterway 51	23	KABINI RIVER	Karnataka
52	National Waterway 52	53	KALI RIVER	Karnataka
53	National Waterway 53	145	KALYAN-THANE-MUMBAI WATERWAY, VASAI CREEK AND ULHAS RIVERSYSTEM	Maharashtra
54	National Waterway 54	86	KARAMNASA RIVER	Bihar & Uttar Pradesh
55	National Waterway 55	311	KAVERI - KOLLIDAM RIVER SYSTEM	Tamil Nadu
56	National Waterway 56	22	KHERKAI RIVER	Jharkhand
57	National Waterway 57	50	KOPI LI RIVER	Assam
58	National Waterway 58	236	KOSI RIVER	Bihar
59	National Waterway 59	19	KOTTAYAM-VAIKOM CANAL	Kerala
60	National Waterway 60	80	KUMARI RIVER	West Bengal
61	National Waterway 61	28	KYN SHI RIVER	Meghalaya
62	National Waterway 62	86	LOHIT RIVER	Assam & Arunachal Pradesh
63	National Waterway 63	336	LUNI RIVER	Rajasthan
64	National Waterway 64	426	MAHANADI RIVER	Odisha
65	National Waterway 65	80	MAHANANDA RIVER	West Bengal
66	National Waterway 66	247	MAHI RIVER	Gujarat
67	National Waterway 67	94	MALAPRABHA RIVER	Karnataka
68	National Waterway 68	41	MANDOVI RIVER	Goa

Sl. No.	National Waterway No.	Length (km)	Details of Waterways	STATES
69	National Waterway 69	5	MANIMUTHARU RIVER	Tamil Nadu
70	National Waterway 70	245	MANJARA RIVER	Maharashtra & Telangana
71	National Waterway 71	27	MAPUSA / MOIDE RIVER	Goa
72	National Waterway 72	59	NAG RIVER	Maharashtra
73	National Waterway 73	226	NARMADA RIVER	Maharashtra & Gujarat
74	National Waterway 74	79	NETRAVATHI RIVER	Karnataka
75	National Waterway 75	142	PALAR RIVER	Tamil Nadu
76	National Waterway 76	23	PANCHAGANGAVALI (PANCHAGANGOLI) RIVER	Karnataka
77	National Waterway 77	20	PAZHAR RIVER	Tamil Nadu
78	National Waterway 78	262	PENGANAGA - WARDHA RIVER SYSTEM	Maharashtra & Telangana
79	National Waterway 79	28	PENNAR RIVER	Andhra Pradesh
80	National Waterway 80	126	PONNIYAR RIVER	Tamil Nadu
81	National Waterway 81	35	PUNPUN RIVER	Bihar
82	National Waterway 82	58	PUTHIMARI RIVER	Assam
83	National Waterway 83	31	RAJPURI CREEK	Maharashtra
84	National Waterway 84	44	RAVI RIVER	Jammu & Kashmir, Himachal Pradesh & Punjab
85	National Waterway 85	31	REVADANDA CREEK - KUNDALIKA RIVER SYSTEM	Maharashtra
86	National Waterway 86	72	RUPNARAYAN RIVER	West Bengal
87	National Waterway 87	210	SABARMATI RIVER	Gujarat
88	National Waterway 88	14	SAL RIVER	Goa
89	National Waterway 89	45	SAVITRI RIVER (BANKOT CREEK)	Maharashtra
90	National Waterway 90	29	SHARAVATI RIVER	Karnataka
91	National Waterway 91	52	SHASTRI RIVER - JAIGAD CREEK SYSTEM	Maharashtra
92	National Waterway 92	26	SILABATI RIVER	West Bengal
93	National Waterway 93	63	SIMSANG RIVER	Meghalaya
94	National Waterway 94	141	SONE RIVER	Bihar
95	National Waterway 95	106	SUBANSIRI RIVER	Assam
96	National Waterway 96	311	SUBARNREKHA RIVER	Jharkhand, West Bengal & Odisha

Sl. No.	National Waterway No.	Length (km)	Details of Waterways	STATES
97	National Waterway 97	172	SUNDERBANS WATERWAY	West Bengal
		56	BIDYA RIVER	West Bengal
		15	CHHOTA KALAGACHI (CHHOTO KALERGACHI) RIVER	West Bengal
		7	GOMAR RIVER	West Bengal
		16	HARIBHANGA RIVER	West Bengal
		37	HOGLA (HOGAL)-PATHANKHALI RIVER	West Bengal
		9	KALINDI (KALANDI) RIVER	West Bengal
		22	KATAKHALI RIVER	West Bengal
		99	MATLA RIVER	West Bengal
		28	MURI GANGA (BARATALA) RIVER	West Bengal
		53	RAIMANGAL RIVER	West Bengal
		14	SAHIBKHALI (SAHEBKHALI) RIVER	West Bengal
		37	SAPTAMUKHI RIVER	West Bengal
		64	THAKURRAN RIVER	West Bengal
98	National Waterway 98	377	SUTLEJ RIVER	Himachal Pradesh & Punjab
99	National Waterway 99	62	TAMARAPARANI RIVER	Tamil Nadu
100	National Waterway 100	436	TAPI RIVER	Maharashtra & Gujarat
101	National Waterway 101	42	TIZU - ZUNGKI RIVERS	Nagaland
102	National Waterway 102	87	TLWANG (DHALESWARI RIVER)	Assam & Mizoram
103	National Waterway 103	73	TONS RIVER	Uttar Pradesh
104	National Waterway 104	232	TUNGABHADRA RIVER	Karnataka, Telangana & Andhra Pradesh
105	National Waterway 105	15	UDAYAVARA RIVER	Karnataka
106	National Waterway 106	20	UMNGOT (DAWKI) RIVER	Meghalaya
107	National Waterway 107	46	VAIGAI RIVER	Tamil Nadu
108	National Waterway 108	53	VARUNA RIVER	Uttar Pradesh
109	National Waterway 109	166	WAINGANGA - PRANAHITA RIVER SYSTEM	Maharashtra & Telangana
110	National Waterway 110	1081	YAMUNA RIVER	Delhi, Haryana & Uttar Pradesh
111	National Waterway 111	50	ZUARI RIVER	Goa
	<b>Total Length</b>	<b>20163.5</b>		

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Annexure - 2

Allocated budget and Expenditure of IWAI from the year 2014-15 onwards are as below:-

(Rs. in crore)

Year	BE	RE	Exp. (IWAI)
2014-15	267.00	118.99	118.87
2015-16	300.00	298.72	293.44
2016-17	BE 350.00 + EBRs 340	RE 303.00 + EBRs 340	595.03
2017-18	228.00 (Grants)+ 660.00 (EBRs)	329.66 (Grants) + 660.00 (EBRs)	767.19
2018-19	480.00	862.49	862.00