

UPDATING OF CONTENTS OF WEBSITE OF MINISTRY OF SHIPPING

1. INLAND WATER TRANSPORT

Inland waterways comprising of rivers, lakes, canals, creeks, backwaters etc. extend to about 20,150 km in the country. However, potential of this important mode of transport has not been fully exploited so far. In several countries of the world where development of this mode was given required importance and attention, Inland Water Transport (IWT) has substantial share in inland transport network.

2. INLAND WATERWAYS AUTHORITY OF INDIA (IWAI)

The IWAI was set up on 27th October 1986 vide Inland Waterways Authority of India Act, 1985, for regulation and development of inland waterways for the purpose of shipping and navigation. IWAI is primarily responsible for development, maintenance and regulation of those waterways which have been declared as National Waterways through Parliament.

3. NATIONAL WATERWAYS

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

| Sl# | 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, Pondichery 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) | |

| Sl# | National Waterway No. | Length (km) | Details of Waterways | STATES |
|-----|-----------------------|-------------|--|---------------------------|
| | | 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) | |
| 5 | National Waterway 5 | 256 | East Coast Canal and Matai river | Odisha and West Bengal |
| | | 265 | Brahmani-Kharsua-Dhamra rivers | |
| | | 67 | Mahanadi delta rivers (Consisting of Hansua river, Nunanala, Gobrinala, Kharnasi river and Mahanadi river) | |
| 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 |

| Sl# | National Waterway No. | Length (km) | Details of Waterways | STATES |
|-----|-----------------------|-------------|--|------------------------------|
| 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 |
| 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 | JHELUM 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 RIVER SYSTEM | 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 | KOPILI 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 |

| Sl# | National Waterway No. | Length (km) | Details of Waterways | STATES |
|-----|-----------------------|-------------|--|--|
| 61 | National Waterway 61 | 28 | KYNHSI 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 |
| 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 | PAZHYAR RIVER | Tamil Nadu |
| 78 | National Waterway 78 | 262 | PENGANAGA - WARDHA RIVER SYSTEM | Maharashtra & Telangana |
| 79 | National Waterway 79 | 28 | PENNNAR 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 |

| Sl# | National Waterway No. | Length (km) | Details of Waterways | STATES |
|-----|-----------------------|-------------|--|---------------------------------------|
| 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 |
| 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 |

| Sl# | National Waterway No. | Length (km) | Details of Waterways | STATES |
|-----|-----------------------|-------------|------------------------------------|--------------------------------|
| 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 |
| | | 20163.5 | | |

4. INDO BANGLADESH PROTOCOL ON INLAND WATER TRANSIT AND TRADE

An Inland Water Transit and Trade Protocol agreement exists between India and Bangladesh under which the two Governments have made mutually beneficial arrangements for the use of their waterways for movement of cargo between the two countries for passage of goods between two places in one country through the territory of the other, in accordance with the laws of the country through the territory of which goods are moving. The existing protocol routes are:

(i) Kolkata-Silghat-Kolkata, (ii) Kolkata- Karimganj- Kolkata, (iii) Rajshahi-Dhulian-Rajshahi, (iv) Silghat-Karimganj-Silghat. For inter-country trade, five ports of call have been designated in each country. [Haldia, Kolkata, Pandu, Silghat and Karimganj in India and Narayanganj, Khulna, Mongla, Sirajganj and Ashuganj in Bangladesh]. The protocol is valid upto June 2020.

5. DEVELOPMENT IN SHIPPING AND IWT SECTOR WITH GOVERNMENT OF BANGLADESH

- (i) **Coastal Shipping Agreement:** - Coastal Shipping between India and Bangladesh will provide an alternative route for the transportation of exim cargo as well cargo to the north eastern part of the country using River Sea Vessel (RSV) or equivalent class vessels. The Agreement and SOP for coastal shipping had also been signed for operationalization.
- (ii) **MoU for the use of Chittagong and Mongla ports for movement of goods to and from India:-** The MoU was signed and it provides that Bangladesh shall allow use of Mongla & Chittagong Ports for the movement of goods to and from India. Movements of goods to & from Mongla & Chittagong Ports may be by waterways, rail, road or multimodal transport subject to the relevant laws and regulations of Bangladesh.

- (iii) **MoU between India and Bangladesh on introduction of Passenger and Cruise Services between India and Bangladesh:-** The MoU was signed on 08.04.2017 . A draft Standard Operating Procedure (SOP) for operationalization of the above MoU on Passenger & Cruise services on the coastal & protocol route is finalized and shall be signed during ensuring Secretary (Shipping) level talks between India and Bangladesh.
- (iv) **MoU between India and Bangladesh on development of fairway from Sirajganj to Daikhowa and Ashuganj to Zakiganj on Indo-Bangladesh protocol route:-** The MoU was signed on April'2017, which defines the implementation modalities , institutional arrangements for the execution of project and that the Ministry of Shipping/ Inland Waterways Authority of India(IWAI) and Bangladesh Inland Waterways Transport Authority (BIWTA) are the implementation agencies from India and Bangladesh respectively. Total cost of project is INR 305.84 Cr., out of which India's share would be 80% of the total cost amounting to INR 244.67 cr.
- The objective of the proposal is to develop and maintain fairway initially for 7 years which are crucial for transportation of Indian Transit and trade cargo by IWT mode. This shall also provide alternative and strategically important connectivity to the North-Eastern states of India with rest of country.
- (v) **Automatic Renewal of Protocol on the Inland Waterways Transit and Trade (PIWTT):-** The new version of PIWTT which allows for automatic renewal every five years was signed between India and Bangladesh. This PIWTT shall automatically be extended for successive five years unless either Government terminates the Protocol. The PIWTT is valid up to 5th June, 2020 with provision for automatic renewal.

6. IMPORTANT PROJECTS RELATED TO INLAND WATER TRANSPORT

I. Kaladan Multimodal Transit Transport Project (KMTTP), Myanmar

This project was conceptualized by the Ministry of External Affairs (MEA) to provide an alternative connectivity of Mizoram with Haldia/Kolkata ports through Kaladan River in Myanmar. The project envisages road transport from Mizoram to Paletwa (Myanmar), thereafter **from Paletwa to Sittwe (Myanmar) by IWT** and from Sittwe to Haldia / Indian Ports by maritime shipping. The project is piloted and funded by the MEA which appointed IWAI as their Project Development Consultant (PDC) for Port and IWT components of the project. Based on IWAI's recommendation, MEA had awarded the work to the successful bidder [M/s ESSAR projects (I)

Pvt. Ltd] for construction of port and IWT components at a cost Rs 342 cr. The construction work at Sittwe and Paletwa was started in December, 2010 and was scheduled to complete the same by 2014. However, the same could not be completed in time and MEA extended the time period upto March, 2017. The ongoing work of Port & IWT component under **Phase-I** is completed. Besides the above, some additional works have been proposed at Paletwa and Sittwe which are in progress and scheduled to be completed by June, 2018.

Phase – II: Works to be undertaken under this phase are as under:

- i) **Preparation of DPR for Container terminal:** Draft DPR has been submitted by the Consultant and the same is under finalization.
- ii) **Wreck removal**
 - a) Work awarded on 12.02.2018 .Work is in Progress.
- iii) **O&M of Phase – I works**
 - a) Tender for O& M of infrastructure created under phase – I is under finalization .

Benefits of the implementation of the KMTT Project:-

- The poorly connected North Eastern states of India will have an alternate connectivity.
- The port at Sittwe can become nodal point for transportation of goods from / to the interiors of the Rakhine state of Myanmar and North Eastern states of India along Kaladan river. It will also provide a gateway for trade from these places to other countries through international shipping.
- Expected to act as catalyst for industrialization and new trade opportunities centered around Sittwe.
- Road link between Mizoram and Myanmar will pave way for enhanced cultural and social integration at the regional level.
- Several avenues for enhanced trade and commerce across the border between North East India & Myanmar and even with other ASEAN countries are expected to emerge over the years.
- The project makes optimum use of naturally available resource like Kaladan River. There are no adverse environmental impacts or displacement of people arising out of the project.

- The project has immense potential for enhancing its transportation capacity in future to serve the need of coming decades.
- The project can be integrated in to the larger connectivity map ASEAN under consideration.
- Local resources and personnel are being engaged to the maximum extent in implementation of the project thereby facilitating employment opportunities and skill development at local level.
- The Kaladan project once completed is expected to be a trendsetter for regional and bilateral cooperation in resolving connectivity problems.

II. Construction of Low level and High Level Jetties at Patna:

The low level and high level jetties at Patna (Bihar) are operational since 2008 and 2012 respectively which are capable for mechanical handling of cargo.

III. Construction of permanent terminal at GR jetty, Kolkata:

Construction of permanent terminal at GR jetty, Kolkata has been completed and the terminal was put to operation in November, 2013.

IV. Construction of low level & high level jetty at Pandu (Guwahati):

Pandu is the most important location on NW-2 for development of a river port. A low level and a high level permanent jetty have been constructed for round the year operations at terminal.

One railway BG siding has also been developed (Rs. 19.989 cr.) connecting Pandu terminal with NF railway at Kamakhya.

V. Ship repair facilities :

Since the North East Region do not have any vessel repair facility with dry docking, the vessels from North East need to be taken to Kolkata for dry docking repair. To facilitate dry docking repair facility in NER, IWAI propose to develop a slipway (Ship repair facility) near Pandu IWT terminal in Joint Partnership with IWT, Govt. of Assam for which Govt of Assam providing land. A Detailed Project Report (DPR) for construction of Ship Repair Facility was prepared through M/s Howe Engg (P) Ltd and construction work was awarded to a contractor in January 2016 at a total cost of Rs.50.76cr. The contractor completed

about 25% of work and thereafter the contract was terminated as contractor could not continue the work. The work is proposed to be retendered.

VI. Construction of Ro-Ro terminals at Dhubri:

The project for development of IWT Terminal with Ro-Ro facility at Dhubri was sanctioned at a cost of Rs.46.69cr and work for construction of terminal was awarded to CPWD, Government of Assam. The project was completed in July 2017. The Ro-Ro terminal at Dhubri is now operational.

VII. Container terminals with Roll on – Roll off facilities on NW-3:

Two IWT container terminals, one at Bolgatty and the other at Willingdon Island with Ro-Ro facilities have been constructed by IWAI through Cochin Port Trust to provide connectivity with ICTT Vallarpadam due to which trucks/ trailers bound for Vallarpadam need not pass through the congested roads of Kochi city. These terminals are in operation since February, 2011 to till June 2017.

7. JAL MARG VIKAS PROJECT ON NATIONAL WATERWAY-1: -

7.1 The 'Jal Marg Vikas' (National Waterway-1: River Ganga) Project envisages to develop a fairway with 2.2 meters to 3 meters depth and 45 m bottom channel width between Varanasi and Haldia covering a distance of 1380 kms at an estimated cost of Rs. 5369 crore. The funding model for the project is: IBRD loan- Rs. 2,512.00 crores (US\$375.00 million); Government of India counterpart funds- Rs. 2,556.00 (US\$380 million); and private sector participation- Rs. 301.00 crores (US\$45 million). The project, being implemented by the IWAI, is to be completed in six years (by 2022-23), with the technical and financial support of the World Bank. The project, on completion, would enable commercial navigation of at least 1500-2000 ton vessels. This project includes construction of multi-modal/intermodal terminals with jetties at five locations, five pairs of Ro-Ro terminals, a new navigational lock, integrated vessel repair & maintenance complexes at two locations, river information system, channel marking, navigational lock, river training and conservancy works.

7.2 The project proposal was appraised by the Public Investment Board in March, 2017 and the CCEA approved the project on 03.01.2018. The loan negotiation was completed in March 2017 and the Executive Board of the IBRD approved the loan of US\$ 375 million on 12.04.2017.

7.3 In the meantime, advance preparation for various sub-projects were taken up and work on priority subprojects, i.e., construction of multimodal terminals at Varanasi, Haldia and Sahibganj; and construction of new navigational lock at Farakka were taken up for implementation after necessary investigations and studies to meet the timelines fixed in the review meeting taken by the Hon'ble Prime Minister in May, 2015 and the stipulated 30% minimum procurement for loan approval by the World Bank. The status of these subprojects is given below:

(i) Multi-modal Terminal at Varanasi

- The project of construction of Phase-I (A), mainly offshore works is being implemented on a plot of land measuring 5.586 ha already in the possession of IWAI. Work awarded on 13.05.2016 at a cost of Rs. 169.70 crore. The work is scheduled to be completed by November 2018. The project has achieved a physical progress of 61.56% financial progress of ₹ 99.20 Cr. as on 31.05.2018.
- Foundation stone of the terminal was laid by the Hon'ble Minister of Shipping, Road Transport and Highways on 12.08.2016.
- 1.415 ha. of land has been acquired for providing road connectivity from the IWT terminal to NH-7.
- The Standing Committee of National Board for Wildlife, in its meeting held on 15.05.17, recommended grant of permission for movement and plying of inland vessels through the Kashi Turtle Wild Life Sanctuary at Varanasi subject to IWAI taking the standard mitigation measures prescribed by the Wildlife Institute of India and conditions prescribed by the State Chief Wildlife Warden. IWAI has initiated action to comply with these conditions.

(ii) Multi-modal Terminal at Sahibganj

- Requisitions for acquisition of 183.13 acres of land for the main terminal filed with the State Government in May, 2015. Land for the terminal has been fully acquired and transferred to IWAI and mutation process completed.
- Out of 9.24 acres of land for road connectivity filed with the State Govt. in January, 2016, 6.7 acres have been acquired. SIA study completed.
- Implementation of R&R package for the 482 identified project affected families is in progress.
- Work on construction of Phase-I of the terminal at a cost of Rs. 280.90 crore was awarded on 27.10.2016 and scheduled to be completed by May, 2019. The project has achieved a physical progress of 43.28% and financial progress of ₹130.18 cr. as on 31.05.2018.

- Foundation stone of the terminal was laid by the Hon'ble Prime Minister on 06.04.2017.

(iii) Multi-modal Terminal at Haldia

- 61 acres of land in the Haldia Dock Complex was taken on 30 year lease from Kolkata Port Trust.
- Ministry of Environment, Forest & Climate Change conveyed CRZ clearance for the terminal on 06.11.2017.
- Work on construction of Phase-I of the terminal at a cost of Rs. 517.36 crore was awarded on 30.06.2017 and is scheduled to be completed by December, 2019. The project has achieved a physical progress of 1.2% and financial progress of ₹ 54.29 crores as on 31.05.2018.

(iv) Construction of New Navigational Lock at Farakka

- 14.86 ha. of land transferred from Farakka Barrage Project to IWAI on 02.03.2016 for construction of the new lock on payment of ₹ 2.36 crore.
- Ministry of Water Resources, RD&GA and NGBRA cleared the project for implementation.
- The work was awarded on 24.11.2016 at a cost of Rs. 359.19 crore and is scheduled to be completed by March, 2019. The project has achieved a physical progress of 24.4% and financial progress of ₹77.05 cr. as on 31.05.2018.

7.4 IWAI has initiated action on the remaining project activities and has also commissioned a number of Consultancies as part of the Jal Marg Vikas Project implementation. Status of these activities and consultancies is given below:

(i) Fairway Development:

Revised Dredging Management Plan and Strategy for NW-1 approved on 2.6.2017. Scope of work under the revised plan is as under:

- Provision of LAD of 3 m and bottom channel width of 45 m on the Haldia - Farakka (351km) stretch through deployment of departmental dredgers/SPCSDs. The estimated quantity of dredging required is 4.813 million CuM.
- Provision of least assured depth (LAD) of 3m and bottom channel width of 45 m on the Farakka-Kahalgaon stretch (146 Kms) through Performance Based Assured Dredging contract. The estimated quantity of dredging required is 2.865 million CuM. Contract signed with M/s Adani Ports & SEZ Ltd. on 09.04.2018. Value of Work: ₹150.00 crore. Two Dredgers have been mobilized and have reached the site.

- Provision of LAD of 3 m and bottom channel width of 45 m on the Sultanganj-Mahendrapur stretch (74 Kms) through Performance Based Assured Dredging contract. The estimated quantity of dredging required is 3.369 million CuM.. Tender process is in progress.
- Provision of LAD of 3 m and bottom channel width of 45 m on the Mahendrapur – Barh stretch (71 Kms) through Performance Based Assured Dredging contract. Tender process is in progress.
- Provision of LAD of 2.5 m and bottom channel width of 45 m on the Barh – Doriganj stretch (109 kms) through Quantity based maintenance dredging contract (Mix & Match – IWAI dredger + SP-CSD from Service Provider). The estimated quantity of dredging required is 8.974 million CuM. Tender process is in progress.
- Provision of LAD of 2.5 m and bottom channel width of 45 m on the Doriganj-Ghazipur stretch (178 kms) through Quantity based maintenance dredging contract (Mix & Match – IWAI dredger + SP-CSD from Service Provider). The estimated quantity of dredging required is 8.665 million CuM. Tender process is in progress.
- Provision of LAD of 2.2 m and bottom channel width of 45 m on the Ghazipur - Varanasi stretch (133 kms) through Quantity based maintenance dredging contract (Mix & Match – IWAI dredger + SP-CSD from Service Provider). The estimated quantity of dredging required is 7.120 million CuM. Tender process is in progress.
- Presently, no dredging is planned on the Kahalgaon-Sultanganj stretch (50 km) due to the presence of Dolphin Sanctuary.

(ii) Aids to Navigation:

- DGPS reference station with MF link has been established at Swaroopganj with a view to provide sub-metre accuracy in position fixing so as to facilitate the operators to navigate their vessel smoothly and effectively along the navigational channel.
- The River Information System i.e. RIS Phase I and Phase-II are fully operational. The vessels are being monitored through remote base stations at Haldia, Garden Reach (GR) Jetty, Tribeni, Swaroopganj, Kumarpur, Ballia and Farakka, monitoring of Bhagalpur, Barh, Hathidah, Munger. These stations have been integrated into three control stations at Farakka , GR Jetty and Patna. These control stations will monitor the vessels plying in this river stretch via Automatic Identification System (AIS) and communicate with vessels

via VHF. 30 IWAI vessels have been equipped with Inland AIS system, short range radar and VHF.

(iii) Intermodal terminal at Kalughat:

- Requisition for acquisition of 5.159 ha. of land filed with the District Administration, Saran on 29.12.2016. Mapping/verification of land has been completed and acquisition award is awaited from the District Administration.
- The DPR and tender document are under finalisation by the Engineering Consultant.
- The Terminal is being planned to handle mostly container traffic.

(iv) Intermodal terminal at Ghazipur:

- Requisition for acquisition of 8.917 ha of land in village Dungarpur filed with the District Administration, Ghazipur on 31.03.2017. 5.103 ha of land has already been acquired and registered. Balance 3.813 ha of land is under acquisition.
- The Foundation Stone for the Terminal was laid by the Hon'ble Minister for Shipping, Road Transport and Highways on 25th January, 2018.
- Tender process for the civil construction is in progress.

(v) Ro-Ro terminals:

Locations for five pairs of Ro-Ro terminals were identified. These are at Rajmahal (Jharkhand) and Manikchak (West Bengal); Samdaghat (Jharkhand) and Manihari (Bihar); Kahalgaon (Bihar) and Tintanga (Bihar); Hasnapur (Bihar) and Bakhtiyarpur(Bihar); and Buxar (Bihar) and Saraikota (Uttar Pradesh). DPRs are under preparation.

(vi) Integrated Vessel Repair & Maintenance Complexes:

- Locations at Kolkata and Sahibganj were identified.
- Complex at Kolkata: Feasibility studies are in progress for the Complex at Kolkata.
- Complex at Sahibganj: Draft feasibility report and draft project report for the complex in Sahibganj have been completed. Requisition for acquisition of 56.22 acres near the MMT, Sahibganj has been filed with the District Administration on 22.11.2017. M/s Adani Power & SEZ Pvt. Ltd. has also requisitioned the same land. DM, Sahibganj has to resolve the matter as to whom the land is to be allotted.

(vii) Bank Protection Works:

Locations have been identified at Farakka Feeder Canal (9.438 km), Farakka to Haldia reaches (33.095 km) and river bend at Farakka (3.20 km). Geo-technical investigations of Farakka Feeder Canal and river bend at Farakka have been completed; draft DPR submitted; and Geo-technical investigations for the Farakka-Haldia reaches is in progress. Revised DPR for Farakka feeder canal has been submitted by the Consultant and is under review.

(viii) Consultancy for Support Services for Design of Inland vessels:

The consultancy was completed with submission of stipulated 13 designs. Designs accepted by the Vetting Committee. Model testing of the designs has been completed.

(ix) Consultancy services for planning and implementation of commercialization on NW-1:

The Consultant carried out 10 out of the contracted 20 pilot movements of vessels.

(x) Project preparatory and definition study for development of ferry services on NW-1:

The Consultant is required to prepare DPRs for the ferry services at Varanasi, Patna, Munger, Bhagalpur, Kolkata and Haldia. The Consultant has submitted pre-feasibility reports for ferry services in Varanasi and Patna.

(xi) Communications Needs Assessment Study for Jal Marg Vikas Project for capacity augmentation of navigational infrastructure on National Waterway-1:

Report submitted by the Consultant. IWAI is taking action as per the report submitted by the Consultant.

(xii) Designing the JMVP website:

Website designed by the Consultant. Security/Testing underway and content being uploaded.

(xiii) Consultancy services for study on the effect of navigational activities on dolphins in NW-1:

Consultancy was awarded on 20.12.2017 and the study is in progress.

(xiv) Consultancy for Risk Assessment and Disaster Management Plan for NW-1:

Consultancy was awarded on 04.04.2018 and is in progress. Inception Report submitted by the Consultant on 25.04.2018.

(xv) Consultancy for Development of Asset Management framework for NW-1:

Consultancy was awarded on 13.02. 2018 and the Consultant has submitted the inception report.

(xvi) Technical Support Services Consultants (TSSC):

- TSSC for projects on Farakka and Haldia stretch was appointed on 08th November, 2017.
- TSSC for projects on Varanasi and Sahibganj stretch was appointed on 22.01.2018.

(xvii) Resettlement Action Plan for Sahibganj, Kalughat and Ghazipur:

Tender process is in progress.

(xviii) Smartphone based Geospatial Technology Tool for enhancing monitoring and execution for capacity augmentation of NW-1:

Contract awarded on 23.02.2018 and the work is in progress.

8. National Waterway -2:

NW 2 comprises of Dhubri to Sadiya of 891 Km in the State of Assam. The depth of 2.5 m, 2.0 m and 1.5 m are being maintained between Dhubri and Neamati (630 km), Neamati-Dibrugarh (138 km) and Dibrugarh- Sadiya (123 km). Apart from the channel maintenance, the projects for construction of Ro-Ro terminals at Dhubri is completed and Hatsingimari is to be implemented. The floating terminals provided at 11 locations can also be shifted to any other place based on demand. Night navigation facilities provided between Dhubri and Silghat can be extended in a short period of time depending upon demand. DGPS stations at four location i.e. Dhubri, Jogighopa, Biswanath Ghat & Dibrugarh are operational. DGPS station at Dhubri extends the coverage of DGPS signals upto Chilmari (including no man's land) in the Protocol route in Bangladesh. River Information System (RIS) in NW-2 is also being implemented. Regular Ro-Ro service is provided through IWAI Ro-Ro vessel MV Gopinath Bordoloi w.e.f. 01.07.2017. The vessel has capacity of 8 trucks & 100 passengers respectively. Further, Ro-Ro Terminals across river Brahmaputra are proposed at Neamati-Kamlabari and Maijan (Dibrugarh) - Sengajan. DPR has been prepared and design has been submitted to IIT Guwahati for vetting.

9. National Waterway -3:

Development, maintenance and management of the National Waterway 3 are the principal project that IWAI is implementing in Kerala. The original NW 3 comprise of the West Coast Canal between Kottappuram and Kollam (168 km) together with the Udyogamandal canal (23 km) and the Champakara canal (14 km) for a total length of 205 km. Eleven locations were originally identified for setting up of Inland Water Transport terminals in NW-3. IWAI has constructed eight permanent terminals. NW-3 has been extended further from kottapuram to Kozhikode (160) Km during April,2016 and DPR Study is in progress.

In addition, two terminals at Kochi port area, one at Bolghatty and the other at Willingdon Island with Roll-on–Roll (Ro Ro) off facilities have been constructed by IWAI to provide connectivity with the International Container Transshipment Terminal (ICTT) Vallarpadam. The Ro-Ro service has been suspended with effect from June 2017 due to contractual dispute between cochin port trust and operator.

10. National Waterway -4 :

The Kakinada-Puducherry stretch of Canals integrated Bhadrachalam - Rajahmundry stretch of River Godavari and Vijayawada - Wazirabad stretch of River Krishna (1078 km) declared as National Waterway 4 (NW 4) during 2008.

NW-4 has been proposed to be developed in the following phases: -

Phase 1: Muktyala to Vijayawada (Krishna River) (82 Km)

Phase II: Vijayawada - Kakinada stretch of canals and Rajahmundry to Polavaram stretch of Godavari River (233 Kms)

Subsequent Phases – Commamur & Buckingham canals and balance stretches of Krishna Godavari Rivers.

Phase-I project for developing the stretch between Vijayawada to Muktyala in Krishna River has been sanctioned for Rs 96.0 Cr. Dredging operation, Work for construction and installation of floating terminals at four locations and Land acquisition for development of permanent cargo terminal at 3 locations in Vijayawada to Muktyala are in progress. For Phase- II stretch tender floated for a comprehensive hydrographic and Navigation study.

The above declared portion of NW-4 was extended to include Wazirabad-Galagali stretch on River Krishna and Bhadrachalam – Nashik stretch on River Godavari by National Waterway Act 2016 taking the total length of NW-4 to 2890 km. Techno-economic feasibility studies are in progress for this extended portion of NW-4

11. National Waterway-5:

i) To start the development works in NW-5, a Memorandum of Understanding (MoU) was signed among IWAI, Govt. of Odisha, Paradip Port and Dhamra Port Company Ltd. on 30.6.2014, for developing the commercially viable stretch of 332 km between Paradip/Dhamra and Talcher, in two phases. During Phase -1, it was proposed to take up the development of 212 km stretch between Paradip / Dhamra and Pankapal, first. In the Phase-2, 120 km stretch between Pankapal and Talcher is proposed to be taken up. Another MoU has been signed between IWAI and Paradip Port Trust (PPT) on 28.9.2016 for

development of NW-5, whereby the PPT will provide all the Project Management Consultant (PMC) services for all the developmental activities of NW-5.

ii) In connection to the Phase-1 development, The EIA & EMP studies for obtaining the Environmental, Coastal Regulation Zone (CRZ), Wildlife and Forest clearances were undertaken through a consultant. Final Draft Report on EIA & EMP studies was accepted by IWAI on 8.3.2017. The applications for obtaining CRZ, Wildlife clearances have been submitted. Consultant for preparation of Detailed Engineering Report (DER) including Detailed Engineering Design and Drawing (DED&D) for modification/ reconstruction of existing bridges in Phase-1 stretch on NW-5 was awarded to SM Consultants on 20.2.2018 and work is likely to be completed by November 2018.

iii) To obtain the basic design parameters for interventions required for development of a fairway with LAD 3.0 m in NW-5, Tractebel Engineering Pvt. Ltd. has been engaged as a consultant for preparation of Detailed Project Report (DPR). This activity is likely to be completed by December 2018. Once the DPR is available, the construction of interventional structures will commence. The construction activities of Phase-1 of NW-5 are likely to be completed by year 2021-22.

12. Status of 106 new National Waterways:

As part of the preparatory works undertaken for development on 106 new National Waterways, IWAI has grouped them under 3 categories as under:

(A) **Category – I:** DPRs completed for 8 waterways which are considered to be the most viable. Developmental activities have been initiated in Phase-I.

1. River Barak (NW-16): River Barak was declared as National Waterway-16 (NW-16) in the year 2016. It connects Silchar, Karimganj and Badarpur in Cachar Valley of Assam with Haldia and Kolkata ports through Indo-Bangladesh Protocol (IBP) route. Fairway development work by maintenance dredging commenced through flagging off by Hon'ble Minister of Shipping, RT&H in November, 2017. Consultancy services for upgradation of terminals awarded in August 2017.

The development of Barak river is taken up in two phases for shipping and navigation purposes:

Phase-I:

Based on Detailed Project Reports (DPRs), the work for development of Silchar-Bhanga(70 Km) stretch of river Barak(NW-16) out of 121 km stretch (Lakhimpur to Bhanga)

in 1st phase for fairway of required depth & width, navigational aids and terminal with cargo handling facilities for movement of cargo vessels is in progress.

Phase-II:

Development of Silchar – Lakhipur (50km) stretch with setting up of new terminals at Silchar and Lakhipur after making assessment on a realistic basis of the potential of cargo in the upstream stretch.

The dredging of river Barak’s 1st Phase has commenced in November, 2017 for maintaining LAD of 2m. It is expected that the initial dredging work would be completed by July 2019.

Upgradation of existing terminals at Badarpur & Karimganj and a new terminal at Silchar:

- (i) The consultancy work for preparation of DPR for renovation and upgradation of existing terminals at Badarpur and Karimganj is under progress. Consultant submitted draft reports on both the terminals which are under examination.
- (ii) As regard the proposed new floating terminal at Silchar, the consultant has opined that land in Silchar is not fit for development of terminal as it does not have adequate river front and it is also not well connected.
- (iii) In the meantime, a traffic potential study conducted by IWAI through Ernst & Young has recommended for establishing an IWT based multimodal hub at Silchar with requirement of a bigger land area. Accordingly, another parcel of land at Ranighat (in Cachar district) measuring 35.04 acres has been identified for setting up a multimodal terminal and action been initiated for acquisition of land through Govt. of Assam.

- 2. River Gandak (NW-37): Work order for River Conservancy works has been issued. Re-tender for floating terminal facilities has been invited in November 2017.
- 3. Sunderbans (Protocol Route) Waterways (NW -97): Project proposal for dredging, navigational aids and loading facility is approved. Tender for dredging work has been invited during November 2017 and tender for floating terminal is in progress.

3 NWs of Goa:

- 4. Cumberjua River (NW-27) :
 - 5. Mandovi River (NW-68) :
 - 6. Zuari River (NW-111) :
- Works are being executed through MPT & CoP, Goa

7. Alappuzha – Kottayam –Athirampuzha Canal (NW -9): Dredger mobilized for departmental dredging and waiting for clearance of disposal sites. Tendering for navigational aids has been floated by R.O. Kochi.
8. Rupnarayan River (West Bengal) (NW -86): Tendering for dredging and Floating terminals is under progress.

(B) **Category – II:** 46 NWs - Those waterways which are in the coastal regions and have some tidal stretches are being considered for development in this category. The number of such coastal rivers and canals is 60 (14 rivers of Sunderbans have been considered as one waterway and extension of West Coast Canal has been considered in NW-3, thus making a total of 46 new waterways). These 60 rivers have been divided into 8 clusters based on their geographical locations.

Two stage DPR studies (stage I feasibility study and based on viability, stage II DPR study) for all the rivers have already been awarded. Based on the outcome of Stage-I feasibility reports of 46 NWs, preparation of Detailed Project Reports (DPRs) for 24 NWs have been awarded by IWAI. DPRs are being finalized and accordingly development works would be initiated. Preparation of DPR of 2 NWs have been taken up by Thane Municipal Corporation and Government of Nagaland.

(C) **Category – III:** 52 NWs - The remaining waterways which are in remote, inaccessible and hilly regions have been grouped in this category. These 52 rivers/canals (Krishna and Godavari rivers have been included as extension of NW-4), have also been sub-divided into various clusters and initially only feasibility studies for all these waterways have been awarded. Field survey in 49 NWs have been completed. Security clearance of 3 NWs awaited. Feasibility study reports of 49 NWs have been received. Work for preparation of DPR of river Yamuna (NW-110) and river Jhelum (NW-49) has been awarded. Feasibility of remaining waterways is being established for further TEF/DPR studies.

(D) Development of NW-110 – Yamuna River at Delhi region

Feasibility study for composite and integrated development in the river Yamuna to achieve navigation and to develop water transport facility in the Delhi region has been completed. The consultants recommended for “Water Taxi and touring alternatives” for development of upstream stretch of Wazirabad Barrage of Yamuna river. The project is recommended for implementation in two phases in which Phase-I will cover the stretch from Soniya Vihar to Tronica City having Jagatpur in between on right side of the river. The Phase-II will extend the service from Soniya

Vihar to Wazirabad pump house in downstream side and from Tronica City to Fatehpur Jat in upstream side. Work order has been issued for the EIA & SIA study for the project.

Work order for Consultancy service for Preparation of Detailed Project Report including Technical and Financial study in Delhi to Allahabad stretch of Yamuna River has also been issued to M/s WAPCOS Ltd.

13. Central Plan Scheme for NER:

(i) Assam:

- a. Construction of 15 floating terminals on river Brahmaputra at an estimated cost of Rs.6.07 cr commenced by the Government of Assam. 1st instalment of cost of Rs.1.07 released on 23.06.2014 and 2nd instalment of Rs.3.49 cr released on 30.01.2018.
- b. Construction of 15 ferry ghat on river Barak at an estimated cost of Rs.6.36 cr sanctioned by Ministry of Shipping on 24.01.2018. 1st instalment cost of Rs.1.27 was released on 24.01.2018.
- c. Construction of 25 terminals on river Brahmaputra at an estimated cost of Rs.10.97 cr sanctioned by Ministry of Shipping on 19.01.2018. 1st instalment cost of Rs.2.20 was released on 19.01.2018.
- d. Construction of 16 floating terminals of 25.0m long on river Brahmaputra at an estimated cost of Rs.13.70 cr sanctioned by Ministry of Shipping on 25.01.2018. 1st instalment cost of Rs.2.74 was released on 25.01.2018.

(ii) **Manipur:** A project for development of IWT in Loktak lake was sanctioned at a cost of Rs.7.88Cr during 2016. 1st instalment of Rs.1.2cr released on 29.03.2016 and 2nd instalment of Rs.6.88 released on 28.02.2018. Work is in progress.

(iii) **Mizoram:** A project for preparation of DPR for development of IWT in Tuichawng /Karnaphuli River was sanctioned at a cost of Rs.57.25 lakh on 23.09.2016. 1st Instalment of Rs.0.11cr was released on 21.09.2016 and 2nd Instalment of Rs.0.35cr released on 27.03.2018. Work is in progress.

(iv) **Tripura:** A project for preparation of DPR for development of IWT in Gumti River was sanctioned at a cost of Rs.12.59Cr during 2015. 1st Instalment of Rs.2.0 cr was released on 06.11.2015. However, the Govt of Tripura did not take up the project since they wanted to change the components of the project by replacing the component of procurement of one dredger with undertaking dredging on contract basis. As requested by Govt of Tripura IWAI prepared a draft revised project proposal accordingly and forwarded to Govt of Tripura vide

letter dated 09.05.2018. Revised project is to be submitted by Govt of Tripura to MoS which is awaited.

14. Coal movement projects on NW- 1:

Considering that the Haldia-Farakka stretch of NW-1 can be developed with 3 m LAD for passage of cargo vessels of 1500- 2000 tonne, thus, making IWT operation commercially viable, IWAI and NTPC conceptualized a project for transportation of 3 MnT per year of imported coal from Sagar / Sand heads to Farakka NTPC Project by IWT mode. After competitive bidding, NTPC awarded the work to M/s Jindal JITF Ltd. who has been transporting imported coal since October 2013 from Sagar Island / Sand heads to Farakka NTPC plant. During 2017-18, 1,25,319 tonnes of coal has been transported from Bay of Bengal to Farakka NTPC Power Station and the cumulative figure since its inception is 19,16,122.5 tonnes. The contract has been terminated by NTPC in July, 2017.

15. Setting up of River Information Services (RIS) system in Haldia- Farakka stretch:-

Installation of an efficient and effective River Navigation Service (RIS) system on the Sagar-Farakka stretch of NW-1 is akin to the system under operation in countries like Netherlands, Belgium, Germany, China & USA. River Information Services (RIS) are combination of modern tracking equipment, related hardware and software designed to optimize traffic and transport processes in inland navigation. The system enhances swift electronic data transfer between mobile vessels and shore (Base stations) through advance and real-time exchange of information. RIS aims to streamline the exchange of information between waterway operators and users. This would facilitate: -

Enhancement of inland navigation safety in ports and rivers.

- Better use of the inland waterways
- Environmental protection
- RIS enables achievement of safe and efficient inland water transport by avoiding the following risks:-
 - i) Ship- to - Ship collisions
 - ii) Ship - Bridge collisions
 - iii) Groundings

IWAI has taken up such a technologically challenging project of setting up of River Information Service System on National Waterway -1 (Ganga) for the first time in India. The project is being implemented in three phases as follows:

| | <u>Phase –I:</u> | <u>Phase –II:</u> | <u>Phase –III:</u> |
|-----------------|---|---|---|
| | Haldia –Farakka | Farakka-Patna | Patna-Varanasi |
| Cost of Project | Rs. 26.23 Cr | Rs. 15.89 Cr | Rs.14.49 Cr |
| Coverage | 545 Km | 410 Km | 356 Km |
| Infrastructures | 7 base stations 2 Control stations 30 Vessels station | 6 Base stations 1 Control station Work awarded on 28.5.15 | 4 base stations 1 Control station Work awarded on 3.3.16 |
| Status | The system had been inaugurated by Hon'ble Minister (Shipping) on 6 th January 2016 and under operation. | The Phase-II has been commissioned on 15.03.2018 | Installation of equipment's complete. Scheduled to be completed by August 2018. |

Phase-I - The vessels are being monitored by installing 7 remote (base station site) at the Haldia, Garden Reach (GR) Jetty, Tribeni, Swaroopganj, Kumarpur, Ballia and Farakka at a cost of Rs. 26.23 crores. There would be two control centers at Farakka and GR Jetty.

Phase-II – The vessels are being monitored by installing 6 remote (base station site) at the Manihari, Bhagalpur, Mungher, Barh, Hathidah & Patna at a cost of Rs. 15.89 crores. There would be single control station at Patna.

The control stations monitor the vessels plying in this river stretch via Automatic Identification System (AIS) and communicate with Vessels via VHF. Under this project, there are 30 vessels which are also equipped with Inland AIS system, short range radar and VHF. The AIS data and voice communication of the vessel will be monitored and recorded at the control stations (Farakka and GR Jetty) and can be retrieved / replayed whenever needed. The vessels can be guided from the control station via VHF and operator can provide the necessary instruction to the vessel.

Trained operators would monitor the activities round the clock and provide the necessary instructions and guidance to the vessel for safe navigation.

The RIS system is subsequently being extended upto Varanasi, Ramnagar. The Phase-III will cover the stretch from Patna to Varanasi (356 Km.) with 4 base at Maujampur, Gobindpur Khas, Zamania & Ramnagar (Varanasi) with one control station at Varanasi at an estimated cost of Rs. 14.49 crores.

16. Development of Talcher to Dhamra and Paradip Port stretch of NW-5:

The navigational clearances below HT/LT power lines between Dhamra / Paradip and Pankapal stretch of NW-5 is under progress as mention below and same are likely to be completed by Dec 2018: -

- a) An amount of Rs. 20.16 crore was paid to Central Electricity Supply Utility of Orissa (CESU) in Oct 2016/ Mar 2018 for shifting of HT/LT lines between Dhamra and Alapua & Mangalgadi to Hansua mouth (Total – 23 works).
- b) An amount of Rs 21.75 lakhs deposited with North Eastern Electricity Supply Company of Odisha Limited (NESCO) for similar work near Erada. In addition, an amount of Rs. 20.66 crores were also paid to NESCO in Mar 2017/ Mar 2018 for shifting of HT/LT lines between Alapua and Pankapal stretch of NW-5 (Total – 13 works).
- c) An amount of Rs. 2.86 crore paid to Odisha Power Transmission Corporation Limited (OPTCL) in June 2017 for one work from Alapua to Pankapal.

The shifting of HT/ LT powerlines in the remaining stretch shall be taken-up at later stage .

17. Other Information:

(i) Movement of over dimensional cargo on National Waterways:

There had been many successful movements of Over Dimensional Cargo (ODC) on NW- 1, 2 and 3 in the last 3-4 years. Considering that IWAI has upgraded IWT infrastructure on NW-1, 2 and 3 and based on interaction with various project promoters and logistics operators, it is expected that ODC movement on NWs is going to increase substantially in coming years. ODC movement on NW -2 is also likely to increase when construction of hydroelectric power plants in Arunachal picks up.

(ii) River Cruise/ Tourism:

River cruise/ tourism has been a regular feature on National Waterways 1 & 2 since last 4-5 years. Various companies namely M/s Heritage River Cruises Pvt. Ltd., M/s Vivada Inland Waterways and M/s Assam Bengal navigation Co., Brahmaputra cruises, operate their cruise vessels on NW- 1 and Sunderbans waterways. M/s Assam- Bengal Navigation Company and M/s Far Horizon Co., are also operating cruise vessels on NW- 2. River tourism on NW- 3 is already popular among domestic and foreign tourists. In short, it can be said that river cruise on NW- 1, 2 and 3 has started and is likely to flourish in future.

(iii) Regular movement of cement through Barges between Pandu to Dhubri Hatsingimari for transportation of cement on pilot project basis has been started on 29.12.2017 in NW-2.

(iv) Scoping mission was carried on NW-2 from 05.12.2017 to 14.12.2017 by joint team of IWAI, Indian Army & Directorate of water transport of Govt. of Assam to identify location to establish terminals and other infrastructural facilities.

(v) Cargo Transportation by National Waterways:

The details of cargo moved on NW-1, 2 and 3 during 2013-14, 2014-15, 2015-16 and 2016-17, 2017-18 (including national waterways of Goa, Maharashtra and Gujrat) are given below:

(In million tonne)

| | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 (Till March 2018) |
|--|----------------|----------------|----------------|----------------|--------------------------------------|
| National Waterway – 1 The Ganga & IBP | 3.35 | 5.05 | 6.24 | 4.62 | 3.06 |
| National Waterway – 2 The Brahmaputra | 2.48 | 0.52 | 0.60 | 0.61 | 0.56 |
| National Waterway – 3 West Coast Canal | 1.07 | 0.97 | 1.06 | 1.03 | 0.40 |
| Goa Waterways | 1.00 | 0.98 | 4.54 | 15.65 | 9.79 |
| Maharashtra Waterways | 10.18 | 22.54 | 28.85 | 33.29 | 25.96 |
| Gujrat Waterways (From Oct. 2017) | - | - | - | - | 11.52 |
| Total | 18.08 | 30.06 | 41.29 | 55.20 | 51.29 |
