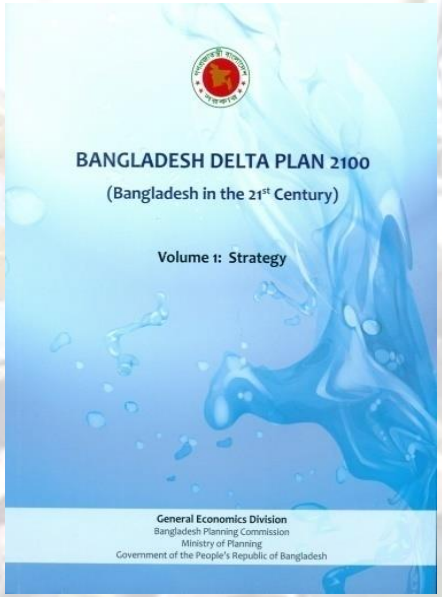
BDP 2100 Strategies/Measures:

Inland Water Transport (Chapter-9, Bangladesh Delta Plan-2100)



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25 February 2021

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- Classified Waterway
- Masterplan
- Initiatives
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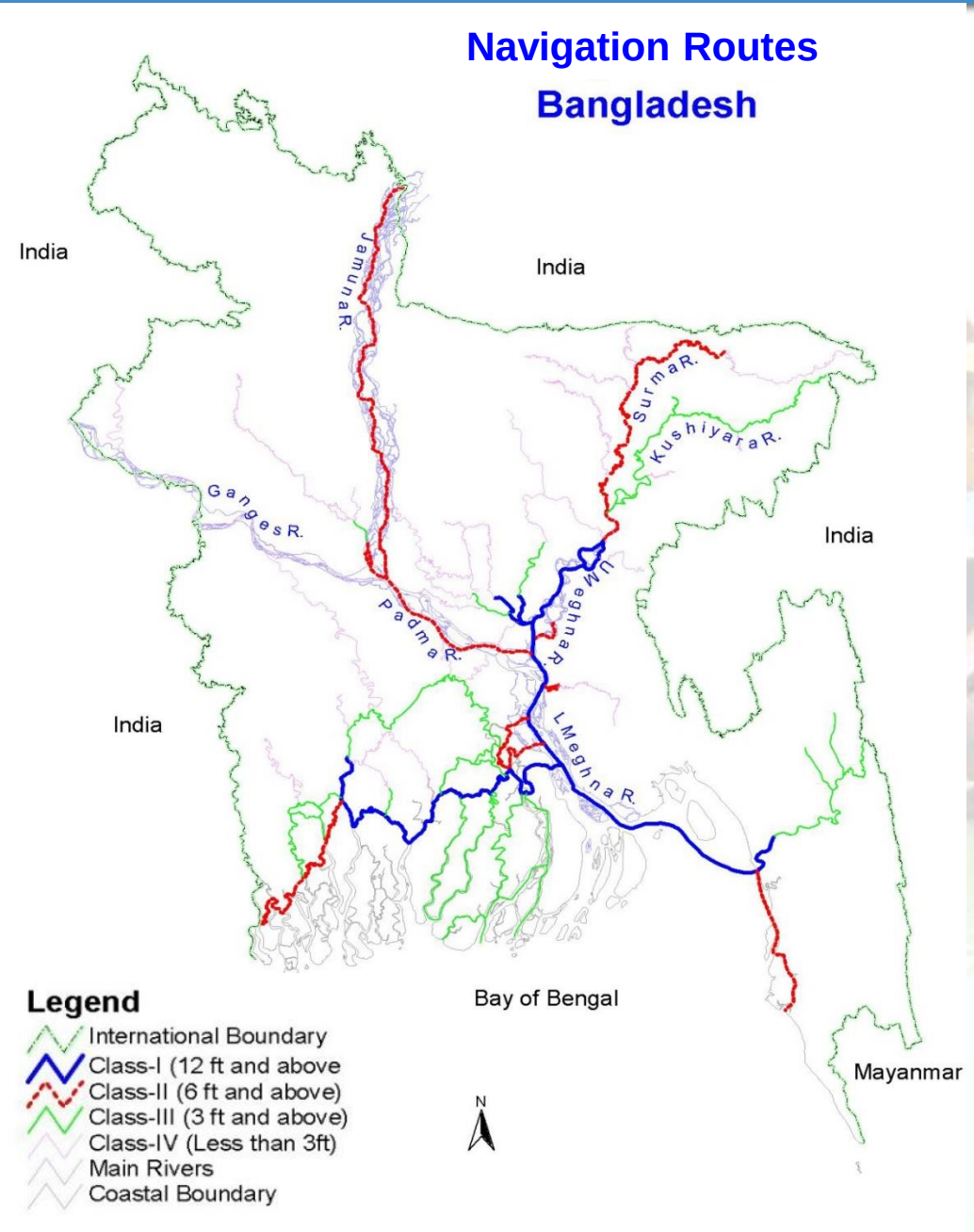
Background

- Bangladesh is a reverine country;
- The surrounding environment and ecosystems directly interlinked with river and water resources;
- It is the lower riparian country of the three mighty Himalayan rivers namely, the Ganges, the Brahmaputra and the Meghna;
- The rivers are the lifelines of the major contributors of the economies of Bangladesh

History of the Waterway of Bangladesh



History

Total Waterways : 24,000 km

In 1960s Waterways : 12,000 km

In 2010s Waterways : 3,500 km

Present situation of waterways-

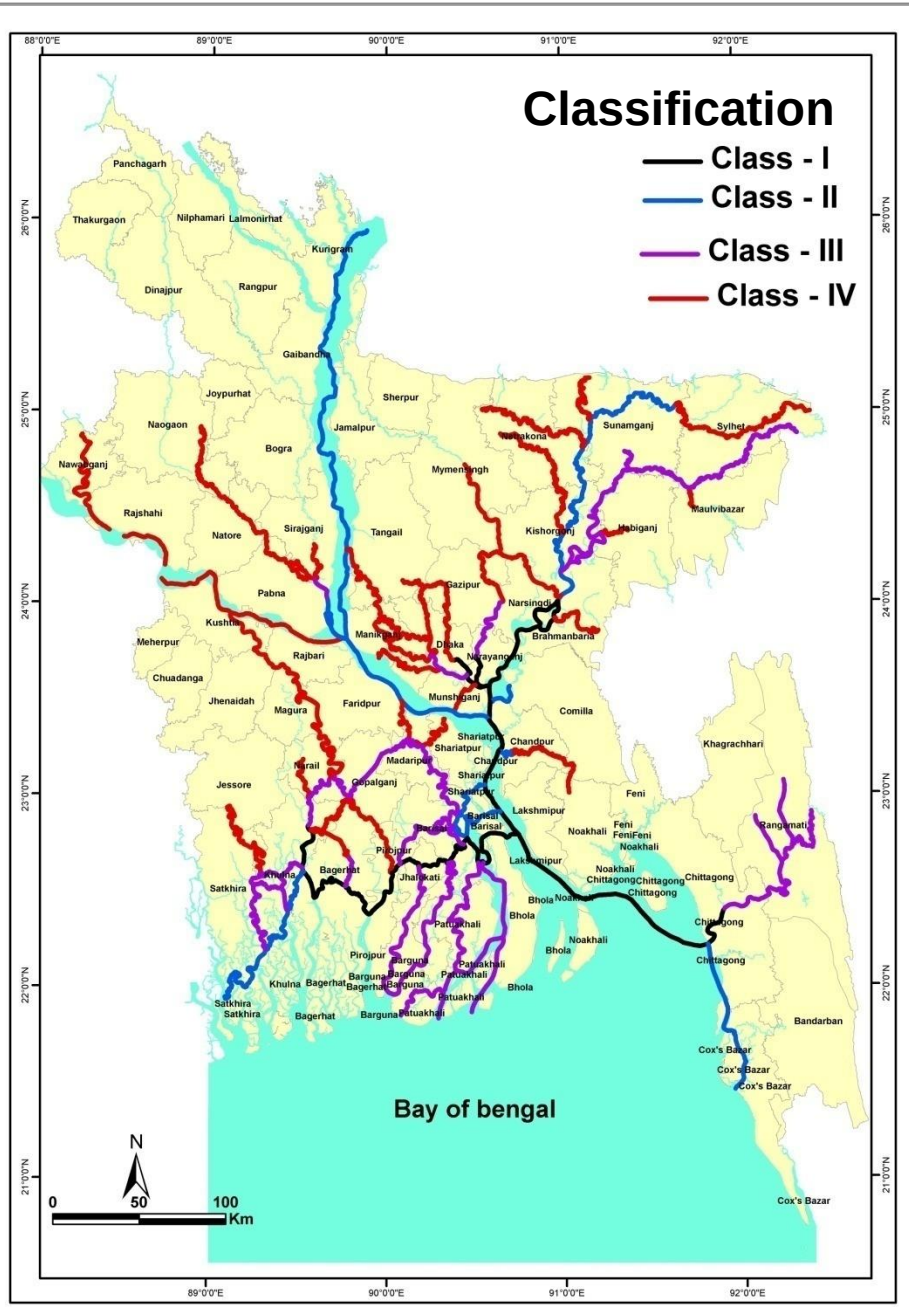
During monsoon : 6,500 km

Lean Period : 4,500 km

Causes of deterioration

- **Siltation (abt. 2b ton)**
- **Lack of maintenance**
- **Human interventions**
- **Bank erosion**
- **Climate Change impact**
- **Reduction of Upstream flow**

Classification of Waterway



Length of Classified Waterways

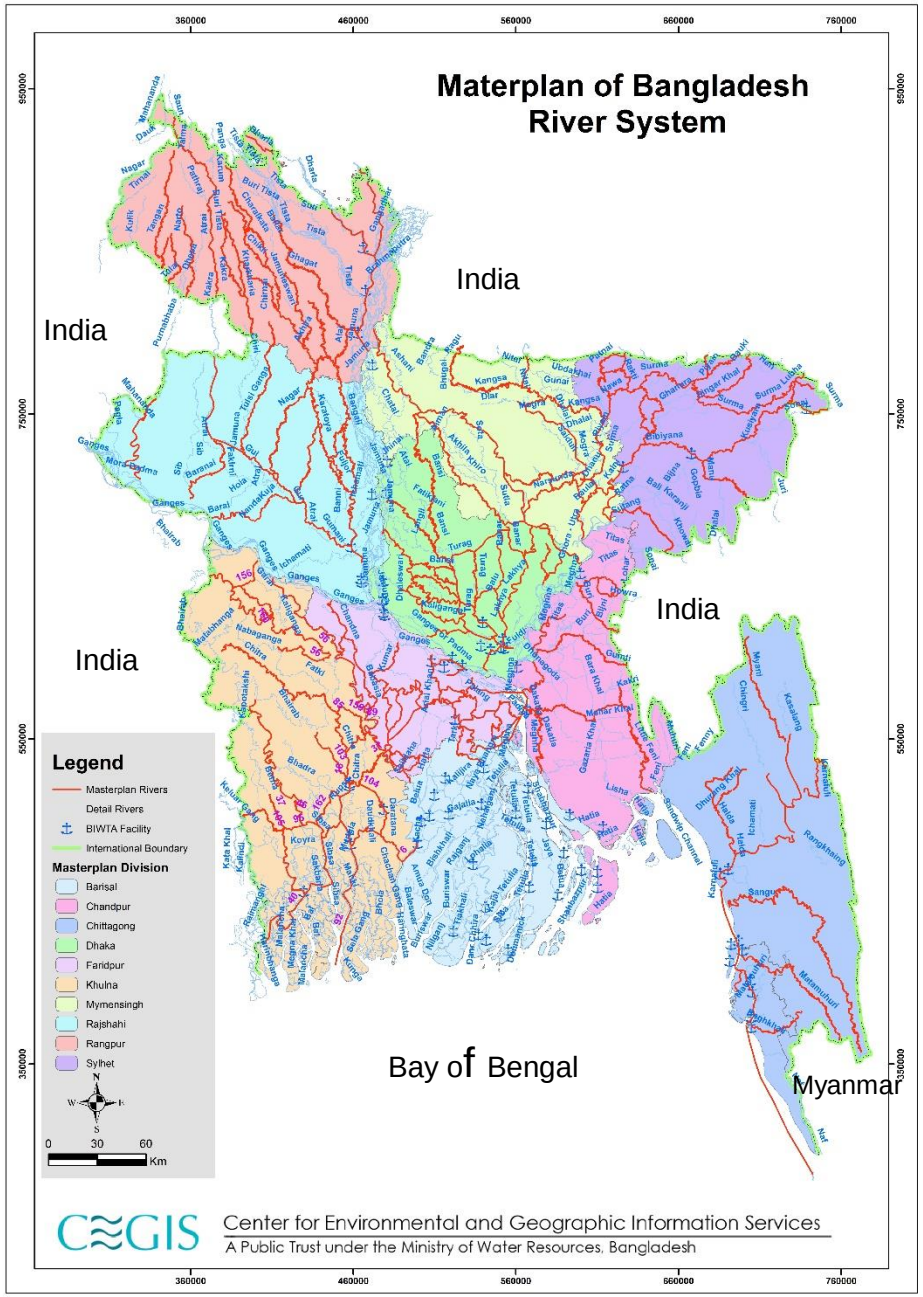
Class I (12 feet and above)= 690

Class II (7 feet and above)= 1720

Class III (5 feet and above)= 1815

Class IV (less than 5 feet)=2275

Master Plan



A concept paper has been approved by the MoWR for Dredging Master Plan. The Plan includes 491 rivers. Among all 178 goes to BITWA and the remaining 313 goes to BWDB. Local Government Engineering Department (LGED) will dredge the canals, Baors and ponds. Recommendations' of Master Plan, BIWTA also maintained all the river routes.

25 February 2021

- **Bangladesh and India signed the Protocol On Inland Water Transit And Trade on 1 November 1972. Since then the Protocol has been renewed a number of times and is valid to date.**


INDO – BANGLADESH
PROTOCOL ROUTES
INDIA
BANGLADESH
ASSAM
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
NAGALAND
BIHAR
WEST BENGAL
TEJPUR
SILGHAT
JOGIGHOPA
DHUBRI
PANDU
DISPUR
SHISHUVARA
SHILLONG
KOHIMA
CHILMARI
BAHADURABAD
ZAKIGANJ
Barak
LAKHIPUR
IMPHAL
KARIMGANJ
FENCHUGANJ
MARKULI
SHERPUR
AJMIRIGANJ
FARAKKA
DHULIAN
GODAGARI
RAJSHAHI
SIRAJGANJ
BAGHABARI
BHAIRAB BAZAR
ASHUGANJ
AGARTALA
AIZWAL
ARICHA
DHAKA
NARAYANGANJ
CHANDPUR
KHULNA
BARISAL
CHALNA
KAUKHALI
MONGLA
KOLKATA
HALDIA
NAMKHANA
Sunderbans
Bay of Bengal
Myanmar(Burma)
Brahmaputra R.
NW-2
Jamuna R.
Padma R.
Meghna R.
Surma R.
Kushiyara R.
Ganga R.
Bhagirathi R.
Hooghly R.
JHARKHAND
ORISSA
N
Legend
Declared National waterway
Proposed National waterway
Protocol route
Road
Rail
NH
Protocol route distances
Kolkata - Guwahati/Pandu..... 1535 km
Kolkata - Karimganj.....1318 km
Dhulian-Rajshahi.....78 km

Some Issues to be addressed On PIWTT

- ❑ Low Navigability, dredging requirement
- ❑ Navigational Aids/ Night Navigation
- ❑ Both way Cargos and product diversification
- ❑ Containerization
- ❑ Passengers services
- ❑ Updating PIWTT
- ❑ Review of Ports of Call

Initiatives to restore the declined Waterways

- **Initiatives**
  - **Capacity Building**
  - **Capital Dredging Project**
  - **Studies**

Initiatives to restore the declined Waterways

Capacity Building

Dredgers

Initially 7 no
In 2020 Purchased 38
Now under Process for 35

Manpower

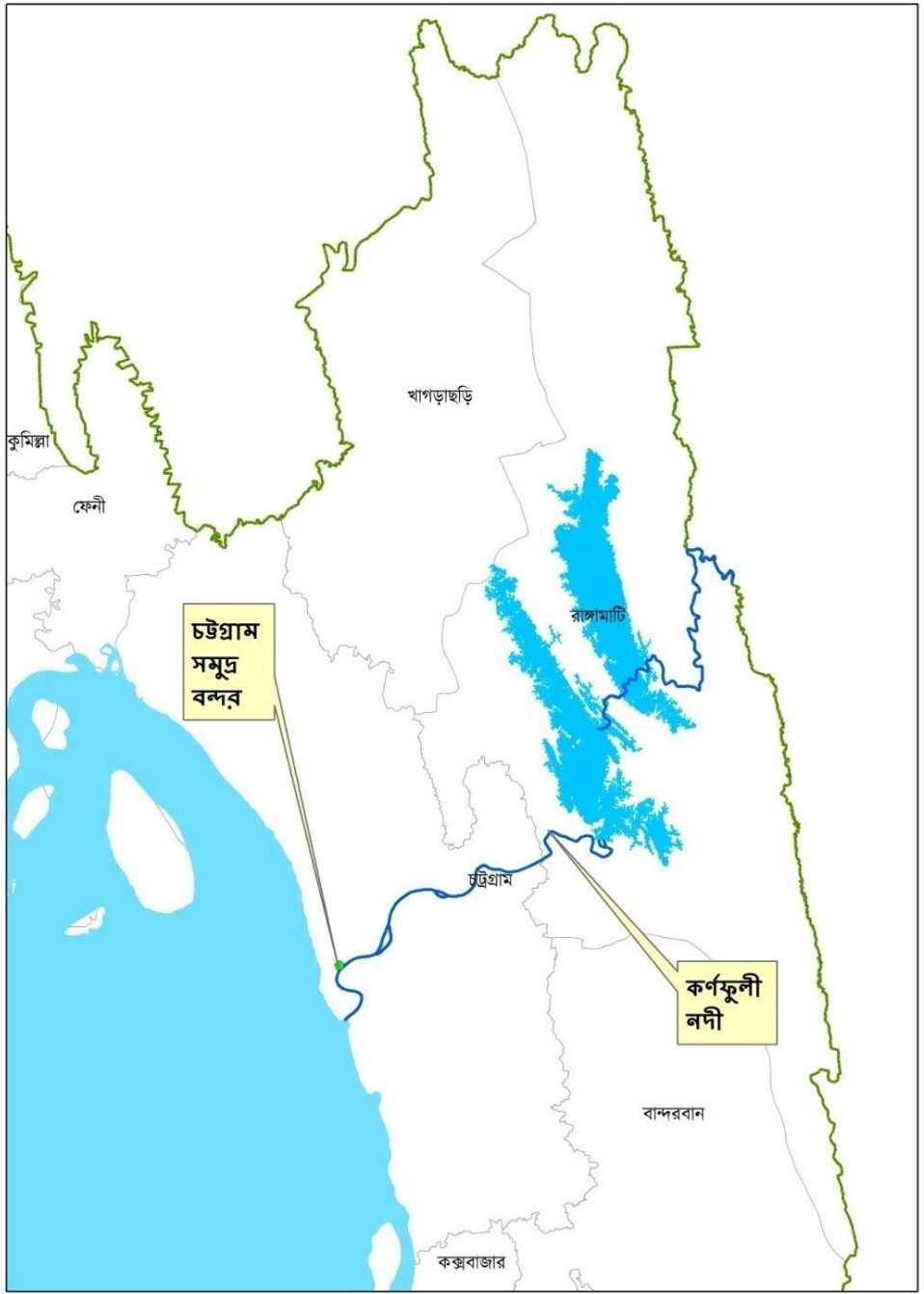
Organogram Change with the requirement

Initiatives to restore the declined Waterways

Capital Dredging projects

- 24 Navigation Routes
- 12 Navigation Routes
- Punarbhova, Dharla, Dudhkumar, Old Brahmaputra, Buriswar-Paira, Tulai and Sua (Study Completed)
- Chattagram-Ashuganj Navigation Route
- Mongla-Pakshi Navigation route
- Balashi-Bahadurabad Ferry Route
- Dhaka –Laskipur river route introduction
- Gomati river Dredging
- Rivers of Haor Regions
- Banar, Ghagat,Bongshi, Zinai Dredging

Initiatives to restore the declined Waterways



Chattagram Port Authority

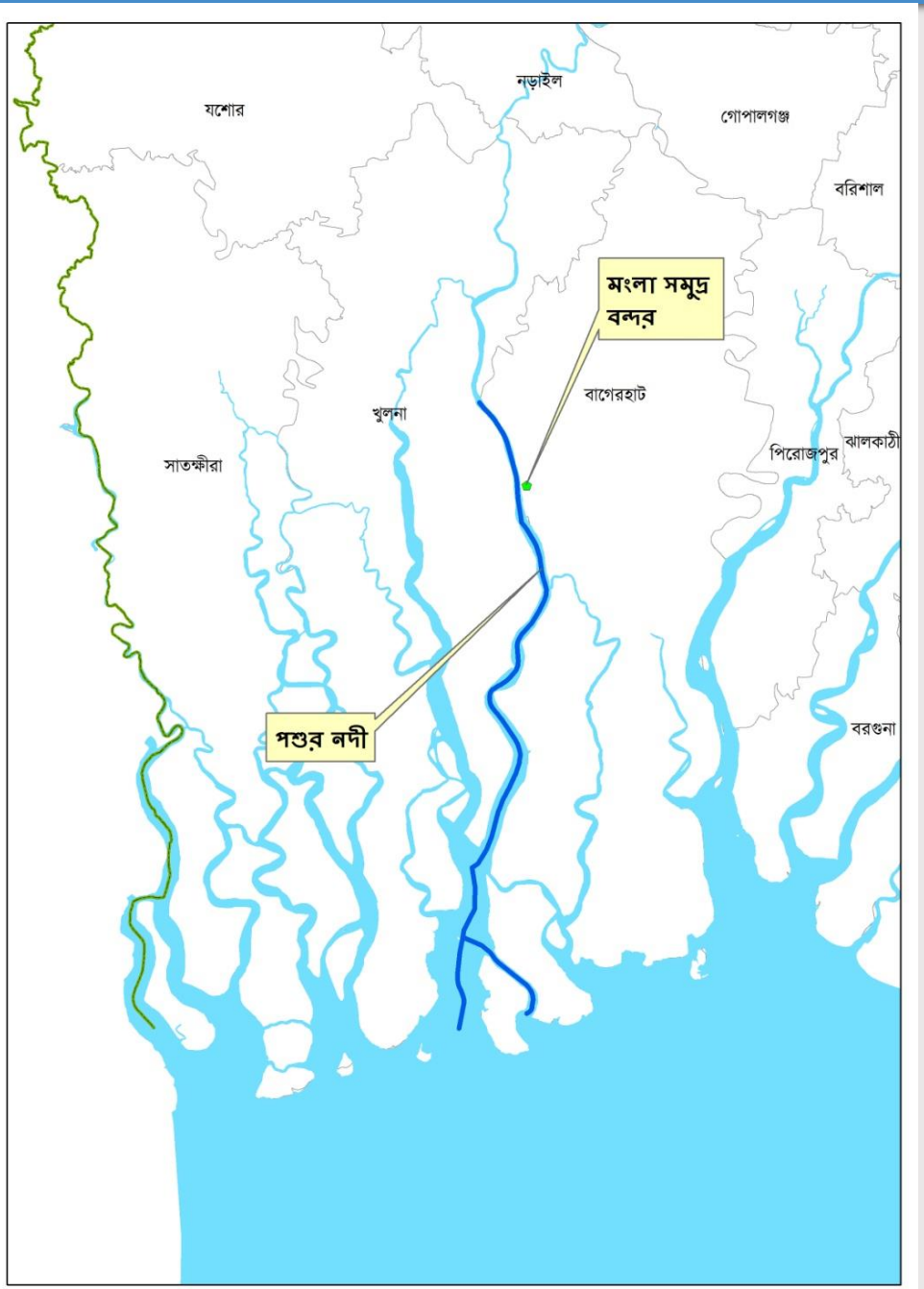
- Presently CPA again takes a project for conducting dredging Karnafuli through Bangladesh Navi.

- Mega Project:
  - Matarbari Port Development Project;

Upcoming Project

Bay Terminal Project

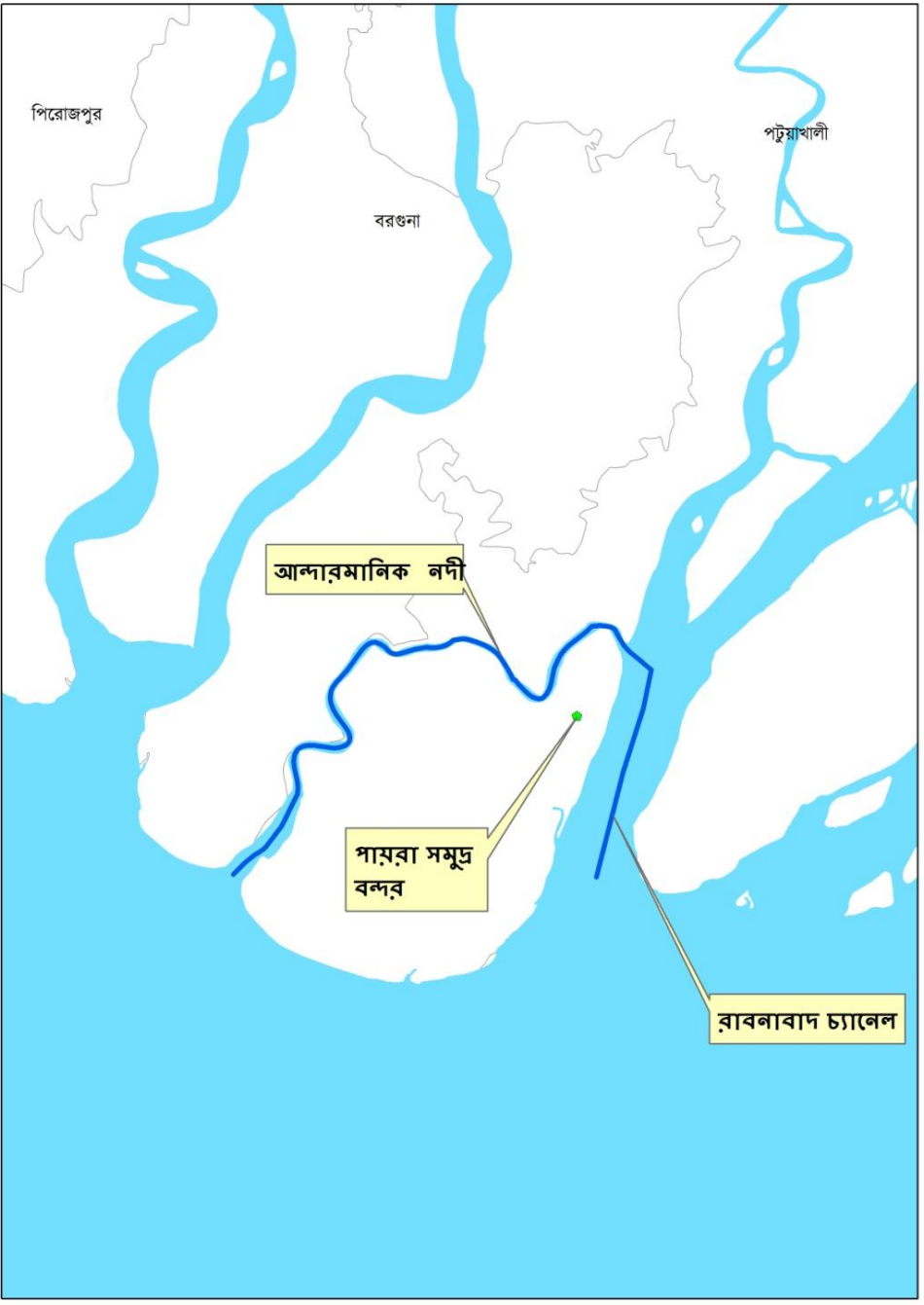
Initiatives to restore the declined Waterways



Mongla Port Authority (MPA)

- **Mongla Port Authority performed dredging by a foreign dredging company. They have completed Outer bar dredging now inner bar dredging is going on.**

Initiatives to restore the declined Waterways



Payra Port Authority (PPA)

- **Payra Port Authority is now performing dredging by a foreign company Jan De Nul.**

Integration with Other Organizations

- For sustainable development of internal water transport, BIWTA has prepared a master plan in integration with BWDB and LGED to maintain the rivers, khals, ponds and baors
- BIWTA will maintain 178 rivers through dredging
- BWDB will maintain 313 rivers by dredging and river training works
- LGED will maintain khals, ponds and baors

Increased Skilled Man-power of BIWTA

- Providing regular training
- Nationwide appointment of man-power related to dredging
- Purchase of dredgers
- Allocation of budget for dredging
- Independent dredging department

Dredging Challenges

- Insufficient flow of Water
- Maintaining the Balanced Eco-system
- Dredged materials Management
- Maintaining Morphological, Ecological and Social balance
- Skilled Manpower for operation & maintenance of High-tech Dredgers

Jamuna River Economic Corridor Development Program: : River stretches lacking flood protection & navigability: Aricha-Sirajganj-Bahadurabad-Chilmari-Daikhowa.

Jamuna River Economic Corridor Development Program: Why It Should be Supported?

1. **Bangladesh Delta Plan 2100:** The Jamuna Program is the first major program to be implemented under the BDP2100 and will build widespread confidence for successful execution of the overall BDP2100.
2. **Transportation sector:** Establishes a year-round navigation channel from Bay of Bengal to the Indian border, promoting a significant modal shift from road and rail transport to more efficient and climate friendly inland waterway transport. The Program will also support the 2nd BD-India Addendum on Protocol on IWT and Trade signed in Dhaka on May 20, 2020.
3. Regional economic impact: The Program would give India, Bhutan and Nepal a viable alternative water route to the Bay of Bengal;
4. People's dwellings and livelihoods: Destructive seasonal floods and accompanying bank erosion would be significantly reduced through enhanced and innovative riverbank stabilization and river training infrastructures.
5. Agriculture and manufacturing: These key economic sectors would benefit from a predictable river course, permitting enhanced irrigation, land reclamation and the creation of new economic zones.

Developing a Dynamic Inland Water Transport System

First, addressing river morphological and climate change issues. In this regard, policymakers need to address twin challenges emanating from both domestic as well as from cross border water management issues;

Second sets of issues relate to river transport infrastructure development. In this regard, the policy should be prioritising routing based on economic viability and those priority routes should be modernised and integral part of multimodal connectivity, among others.

Third sets of issues involve governance and investment issues, the former is critical to governing the sector for better functioning of the IWT system and the latter is critical to maintain navigability and develop modern facilities and human resources.

Final sets of issues should focus on economics and governance of cross-border rivers, aimed at making the river transport viable. In this regard, the corresponding parties should have a clear roadmap on user fees, tariff rates, and joint efforts to develop infrastructure, among others.

IWT Strategy Aligned with BDP 2100 Goals

Strategies for inland waterway sector mainly include:

- **Develop reliable water system conditions for long term sustainable IWT through the capital and maintenance dredging of the rivers Padma, Meghna, Jamuna, Brahmaputra, Dharla, Arial khan, Kushiyara, Gorai, and Manu.**

- **Regular dredging should also be considered for Ghashiakhali and other channels in the Sundarbans.**

- **Ensure efficient and equitable use of sand through the regular shifting of the 'Balu-mahal' (sand quarry). The local administration should take necessary steps accordingly. Specific guidelines should be developed for the management of soil/sediment resultant from dredging.**

- **Contribute to dealing with trans-boundary water aspects by developing mutual understanding and cooperation**

Goal-wise Elaboration of IWT Strategies & Sub-strategies

Strategy No:	IWT Strategies & Sub-strategies	Delta Initiatives
2.3	Control pollution, ensuring water quality and provide sustainable and safe water supply and sanitation systems	**Short term measures:** -- Improve water quality by reducing pollution -- Installation of appropriate water supply mechanism in ports to ensure safe drinking water (including gravity flow systems, water harvesting and tubewells where applicable) -- Application of sustainable water supply for boats -- Motivational work for proper sanitation practices on boats ***Medium term measures:*** -- Water supply and sanitation, including solid waste management in ports, landing places and ships -- Improve water quality by reducing pollution ***Long term measures:*** -- Advanced water supply and sanitation system and wastewater treatment in all ports and ships
	Develop the navigation network according to the societal and economic demands	**Short and Medium term measures:**-- Conduct traffic surveys to establish passenger and cargo requirements on the main rivers, feeders and creek routes -- Reclassify the inland waterways network according to sustainable

Goal-wise Elaboration of IWT Strategies & Sub-strategies

Strategy No:	IWT Strategies & Sub-strategies	Delta Initiatives
3.1	**Develop the navigation network according to the societal and economic demands**	**Short and Medium term measures:**-- Conduct traffic surveys to establish passenger and cargo requirements on the main rivers, feeders and creek routes -- Reclassify the inland waterways network according to sustainable navigabilityand traffic importance. **Classify network into two categories: National and Rural. Rural waterways should include local and rural routes** -- The core waterways should include fairways between maritime ports and central regions, economic zones and intra-regional routes -- Class I and part of Class II and Class IV (especially for retention) will be completed in the short term Implementation of remaining **Class II together with Class III and IV routes will be completed in the medium term** -- Carry out river conservancy works including river training works for navigational purposes and for provision of aids to navigation including marks, buoys, lights and semaphore signal
3.3	**Develop, maintain and operate inland river ports, landing / ferry ghats and terminal facilities in ports or ghats**	**Short term measures:** -- **River** and **khal restoration** -- Integrated **sediment and erosion management;** local erosion control by using hard materials

Goal-wise Elaboration of IWT Strategies & Sub-strategies

Strategy No:	IWT Strategies & Sub-strategies	Delta Initiatives
3.3	**Develop, maintain and operate inland river ports, landing / ferry ghats and terminal facilities in ports or ghats**	**Medium term measures:** -- Prepare a **dredging strategy and dredging program for the medium term to accommodate and stimulate economic growth**, to support implementation of the BDP 2100 targets. -- Management **sediment supply** to the rivers -- Manage **river beds to levels** required for navigation -- **River erosion** control by **creating green belt** along banks
4.1	**Safeguard and maintain the wetlands including its ecosystems and also to ensure quality of water in relation to pollution by water crafts and ports**	*Some of the components to be safeguarded under the goal are mangrove forests, water and riverine ecosystems, coastal greenbelt, seasonal and perennial wetlands, tidal freshwater frontier, etc.*
5.1	**Mainstream IWT**	***Short term measures:*** -- Minimizing the gaps between planning and implementation

Goal-wise Elaboration of IWT Strategies & Sub-strategies

Strategy No:	IWT Strategies & Sub-strategies	Delta Initiatives
5.2	Prepare and implement capacity building and institutional strengthening to professionalize IWT-performance and sector in relation to stakeholders	***Short term measures:*** -- Develop need based Capacity Building and Strengthening Program at National level including possible proposals for reforms and restructuring -- Strengthen local and regional institutions for navigation and port management -- BIWTA and BWDB should work closely together when drawing up programs for effective coordination -- Coordinate, set and enforce standards for bridges: increase coordination of different public authorities to ensure sufficient clearance under bridges
5.3	Enhance private sector participation in the IWT sector	--- BIWTA should concentrate more **in preparing dredging strategies and programs** on the basis of **comparative traffic importance against available resources**. Actual dredging could also be performed by **the private sector**. BIWTA should restrict itself in procurement of dredgers, it should rather lease out the existing fleet to private sector;

Goal-wise Elaboration of IWT Strategies & Sub-strategies

Strategy No:	IWT Strategies & Sub-strategies	Delta Initiatives
5.4	***Contribute to dealing with transboundary water aspects by developing mutual understanding and cooperation to attract more regional and intra-regional traffic in the waterways of Bangladesh.***	***Short term measures:*** -Under the existing **Protocol on Inland Water Transit and Trade between Bangladesh and India,** the following joint initiatives and assurances should be committed by both Governments: --**Improve navigability of existing routes and identify new routes.** Upstream cooperation and commitment to maintain navigability in the downstream routes. --Identify most economic and efficient transport chain and establish connectivity with other modes.
5.6	***Early warning, storm surge and flood risk preparedness***	***Short term measures:*** -- **Revision** of **cyclone / storm-surge warning s**ystems -- Harmonize flood patrolling / fighting procedures -- Development of community based early warning and forecasting systems -- Flood hazard zoning and building conditions (incl. flood proofing): mapping and enforcement -- Plans for shelter and evacuation optimization, establish disaster management social groups

Way Forward

- There is no alternative without comprehensive development of navigation system to achieve the vision of the government
- Waterway is a green transport and communication system which may reduce overall carbon emission in transport system.
- Development of socio-economic condition and lessening regional disparity through implementation of navigation route in remote areas
- Proper allocation of fund for smooth dredging
- Use of new Technology and Equipment to operate dredging activities and formation of independent Dredging Department

Thank You .....