

Grand Plans, Many Questions

A Status Review of Claims, Progress and Impacts
of the National Inland Waterways Program



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National Inland Waterways Program**

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**Manthan Adhyayan Kendra
March 2021**

Manthan Adhyayan Kendra is a centre set up to research, analyze and monitor water and energy issues from the perspective of just, equitable and sustainable development. Broad components of Manthan Adhyayan Kendra's work include Overall Monitoring of developments in the Water and related sectors, including policies, laws, regulations, projects, and programs; Water, Growth and Development; Rivers, Dams and Environmental Flows, river basin development, dams, hydropower and irrigation projects; and Privatization, Commodification and Reforms in the Water Sector, including alternatives to privatization. Manthan looks at the impacts of these on people's lives, livelihoods, and ecology. Current focus themes include the monitoring and study of inland waterways and impacts of coal on water resources.

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Key Insights and Highlights

With the enforcement of National Waterways Act, 2016, India has a total of 111 National Inland Waterways declared on almost all major rivers, creeks, estuaries of the country. Five years after the program to develop the National Waterways for large scale commercial shipping and navigation was launched, Manthan is bringing out this report to review the progress made (before the outbreak of Covid-19), whether the claims and promises have been fulfilled and what have been the impacts of the program. Some of the key findings of this report are as follows: -

- Large number of promises were made, grand plans announced and many benefits were claimed for the waterways.
- The five years since the program was launched clearly show that these were largely hype. Claimed benefits of the waterways also did not materialise underlying the fact that many claimed benefits, like low costs and environmental friendliness are simply fallacious, being based on wrong or incomplete analysis. Progress and realisation of many of the projections and promises made at the start of the programme has been far below promise.
- The actual investments, though more than in earlier years, and rising over the years, are way below the Rs 2000 crores per year promised by then Minister for Shipping, Shri Nitin Gadkari, and there is little evidence of any of the Rs. 12,000 crores that this was supposed to leverage. Budget 2021-22 allocates only Rs. 623 crores to inland waterways.
- Actual investments have also fallen far short of the requirements for the projected development of waterways. Also, these seem focussed on a limited number of waterways like the World Bank funded NW-1 (Ganga) and NW-2 (Brahmaputra), meaning other waterways may see much slower development.
- Out of the 37 waterways that were to be developed in three years by 2019, work has not even begun on 21 waterways. On remaining 16 waterways, development of waterway has started and is at various stages, along with two more waterways not listed in the 37, and these waterways are operational to a limited extent. Thus, a total of 18 waterways are partly operational and where developmental activity has been taken up. However, it must be noted that many of these 18 waterways were already operational even before 2016—e.g., the Amba waterway (now NW-10), the Goa Waterways (now NW-68, 111), the Sundarbans waterways (now NW -97) etc.

- Goods transported over inland waterways have risen steadily from 55.47 million tons in 2016-17 to 73.64 million tons in 2019-20. The waterways being used by private operators like operational waterways in Maharashtra, Goa, Gujarat continue to be the major contributors of traffic on National Waterways, constituting more than 75% of the cargo moved.
- Most of the waterway cargo movement is happening in tidal stretches (and mainly over relatively shorter distance) where depths are readily available or can be maintained at least cost. This is also true for the Ganga waterway.
- Most of the feasible waterways are also those operating in such tidal areas. However, these have some of the most significant ecological and social impacts as tidal/ estuarine areas are very sensitive and productive zones.
- More than 90% of the cargo moved on inland waterways is bulk commodities viz. coal & coke, iron ore, fly ash, limestone etc., with coal, iron ore and fly ash constituting 35%, 34% and 10% respectively.
- Multi-modal terminals for the National Waterway -1 have been inaugurated at Varanasi in Uttar Pradesh (November 2018) and at Sahibganj in Jharkhand (September 2019) but actual utilisation of these terminals has been abysmal. For example, only 280 tons of cargo was handled at Varanasi terminal in the 14 months after its inauguration by the PM, as against projected 3.5 million tons.
- By 2020-21, detailed studies showed that the number of waterways found to be viable for cargo transport are only 23 out of the 106 National Waterways announced in 2016. According to the Action Plan released by Inland Waterways Authority of India in April 2020, out of the 106 newly declared waterways, 63 are found to be non-viable for cargo or passenger/tourism. This confirms the viability issues raised by Manthan.
- While lower cost is touted as the major advantage of waterways compared to railways and roadways, these claims appear to be more of a generic statement and not based on the specific costs for specific waterways. IWAI is not releasing any cost data for any of the operational waterway. This raises the question as to whether this is because in actual practice, inland water transport remains high-cost contrary to the generic claims.
- The only data available for cost of transport by any waterway is for the Ganga waterway. The latest report of the World Bank shows that there has been no reduction in the cost of transporting cargo on the inland waterway between Haldia and Varanasi. The cost in January 2017 was Rs. 1.10 per ton-km, and

on 21 Dec 2020, after three years of work on the project, it remains the same. Clearly, the cost of cargo transport on the Ganga waterway remains high, and difference with railways is only marginal, or even absent particularly when total costs of door-to-door (origin to destination, and not just the part relating to transport over water) is considered.

- There are serious questions about the dependability of waterways. There are many incidents of vessels getting stuck due to lower water depths, vessels facing problems even when the river flows are high, suspension of services of RoRo, seaplanes etc. This indicates either fundamental problems (like maintaining required depths) or bad planning, or both.
- In more recent time, a sense of realism seems to have tempered the earlier hype. The admission that as many as 63 of the 106 waterways are not feasible is an important indicator. Same can be seen on individual waterways. For example, there was a lot of build-up around developing the Gandak, Ghaghara and Kosi Waterway, but the Action Plan developed by the IWAI does not mention these waterways in the list of 17 National Waterways identified for development. The study done by Manthan in July 2018 had raised serious questions about the feasibility of these waterways.
- However, there is a major push now for seaplanes, luxury cruises and high-end tourism which mirrors the earlier optimism of cargo transport by inland waterways.
- The creation, maintenance and operation of inland waterways have huge adverse environmental and social impacts. Interventions in rivers due to dredging operations, movement of barges in the navigational channels, and impacts due to riverine terminals could lead to degradation of aquatic ecosystem including adverse impacts on fish population, endangered species such as Gangetic Dolphins.
- Fisher people are doubly affected, as fish populations are affected due to all of above; and the movement of large vessels often requires restricting or prohibiting access of fisher-people to their fishing areas, leads to the tearing apart of nets by barges and other vessels, and necessitates relocation of fishing jetties. Land acquisition for terminals, jetties and other infrastructure also leads to displacement and loss of livelihoods.
- The IWAI asserts that waterways are “best suited mode of transportation for ... hazardous goods...” This statement is astounding because any leakage

during transport or spillage/escape of hazardous goods in case of accidents is likely to contaminate vast stretches of water, with severe impacts of the ecology, flora fauna and communities dependent on the river. Between March 2020 and May 2020, five fly ash laden barges sank in the various stretches of Hooghly rivers and rivers of the Sundarban which are a part of National Waterway-1 and National Waterway-97.

- National Waterways and their components such as the Multi-modal terminals are being kept outside of the legally binding Environmental Clearance process through a legally untenable exemption granted by the Ministry of Environment, Forests and Climate Change. A case on the applicability of Environmental Clearance for the Inland Waterways (esp. for Ganga Waterway) is still ongoing at the Principal Bench of the National Green Tribunal for 6 years. Ministry of Environment in its draft EIA Notification 2020 has categorised inland waterways and water aerodromes for seaplanes in Category B2 which does not require preparation of EIA report, appraisal by Centre/State or public hearing for these projects.
- There is some indication of steps being taken to address the needs of smaller users and local communities with projects such as Arth Ganga and plans for community jetties. But the major focus and funds of the waterways programs still remain large vessels, big commercial players and corporates, luxury cruises, high end tourism.
- It remains to be seen whether IWAI will prioritise the needs of and programs targeted at benefitting smaller users, local communities, fisher people etc. when pitted against the interests of the rich and powerful large corporate users. This is illustrated with the example of the plans to deploy cruise vessels in Varanasi where the interests of the small boats people are being sacrificed.

Background

The Government of India launched the National Inland Waterways program in 2016 as one of its flagship programs, with the passage of the National Waterways Act 2016. This program declared 111 rivers or river stretches as National (inland) Waterways, enabling the Central Government to regulate these waterways. The national waterways project intends to create large scale, commercial shipping and navigation systems in these 111 waterways for carrying cargo and passengers. Before 2016, there were five waterways which had been declared as national waterways, but their development was slow.

The launch of the program in 2016 promised to change all that. It saw many claims being made for the program in terms of the huge benefits it would create and the big changes it would usher in.

Manthan has been monitoring the National Inland Waterways program as it represents a massive intervention in India's rivers, creeks and estuaries with potentially many serious impacts. In 2017, just when the program was launched, Manthan brought out a Strategic Status Report that highlighted key issues and concerns of the program, and suggested some important steps for the way forward. Now, five years after the program was launched, Manthan Adhyayan Kendra has carried out an assessment of the progress made to date, whether the claims and promises have been fulfilled and what have been the impacts of the program. This report presents the assessment, and also offers some suggestions for the way forward.

Many Promises

We start this report with recollecting the promises and plans of the program. The promises made and dream shown to the people can be summarised by the statement of Shri Nitin Gadkari, then Minister, Ministry of Shipping, under which inland waterways fall. On 18th Oct. 2016, a few months after the launch of the inland waterway program, Gadkari said¹:

“the waterways will prove to be a **game changer** as this would **reduce the cost of transportation** for goods and passengers, **reduce road congestion** as well as play a vital role in **reducing pollution**. This will also give a **boost to tourism**. ... He also said that to enhance the use of these inland waterways sea planes, hovercrafts and amphibious buses would be introduced.” (Emphasis added)

In an interview² to PTI in May 2017, the Minister also stated that since the Cabinet had approved 2.5% of the Central Roads Funds for the waterways projects, totalling to Rs. 2000 crores per year,

“...we can easily get works done worth Rs.12,000 crore from that by raising more funds. It is my endeavour to operationalise 10 waterways before December 2018.”

Almost six months later, on 19 Dec 2017 when presumably the Government had a better sense of how the program was rolling out, Gadkari said, in a reply to a debate in Parliament³:

“...there will be a “revolution” in the country in development of inland waterways... There will be a cruise service between Mumbai and Andaman and Nicobar Islands and a 500-seater luxury cruise between Mumbai and Goa... he had urged the Civil Aviation Ministry to frame a law on sea planes in three months or he will bring a legislation on a “flying boat”.”

1 Press Release of Ministry of Shipping, dated 18th Oct 2016, Press Information Bureau, Government of India. “Shri Nitin Gadkari says Inland Waterways A Game Changer in National Connectivity”. <https://pib.gov.in/newsite/PrintRelease.aspx?relid=151759>

2 <https://economictimes.indiatimes.com/news/economy/infrastructure/10-waterways-to-be-made-operational-next-year-nitin-gadkari/articleshow/58896336.cms?from=mdr>

3 <https://www.thenewsmminute.com/article/gadkari-promises-revolution-inland-waterways-73510> This news report is based on the debate in Lok Sabha on 19.12.2017 available at <http://loksabhadhindhaph.nic.in/Members/DebateResults16.aspx?mpno=12402>

Other statements made by the Minister during this debate included:

- Government will soon bring a policy to run all barges on methanol, which will be made from coal. This will halve the cost of running the barges
- We will promote tourism in Ganga, have 7-star, 5-star cruises, planes landing on water
- We have started work on 10 waterways

Thus, the projections were very ambitious – 10 waterways developed before December 2018, shift of goods and passenger transport to water reducing road congestion, reduction in cost of transport, around Rs. 12000 crores outlay per year, 5- and 7-star cruises, planes landing on rivers.

In terms of actual numbers of passengers and cargo, some of the projections were⁴:

- Development of 37 NWs in next three years [after 2016, so by 2019]. These included NW 1 to 5, eight in the so-called Category II and 24 whose Detailed Project Reports (DPRs) were to be available from Feb. 2017 onwards.
- The cargo movement on just 6 waterways, NW 1 to 5 and the Barak waterway, by the year 2018-19 was estimated to be 159 million tonnes, and 332 million tons by 2031-32 according to the report on Integrated National Waterways Transportation Grid⁵ submitted by M/s RITES in 2014. This was as compared to 9.9 million tons in 2015-16⁶.

However, progress and realisation of each and every of these projections and claims has been far below promise. The serious issues coming up in the implementation and operation of inland waterways indicate that this lack of fulfilling promises is not only because of any inefficiency of the implementing machinery, but also because of the inherent problems and difficulties of inland waterways. Moreover, many of the claimed benefits of waterways like cheap transport, environment

4 FAQs released by IWAI for Jal Marg Vikas Project in 2016 <http://jmvp.nic.in/sites/default/files/FAQ%20JMVP%20Final%20PDF.pdf> Last accessed 7 Apr 2020

5 Integrated National Waterways Transportation Grid Study (Stage 1 of phase II, Final Report https://iwai.nic.in/WriteReadData/1892s/INT_NAT_WAT_TRA_GRI_STU_Part1_3-26947128.pdf Accessed 12 Feb 2017 Page 12

6 Statistics of Inland Water Transport 2017-18, Ministry of Shipping, Page vi. This figure of 9.9 million ton is only for NW 1, 2 and 3, as NWs 4 and 5 and Barak were not operation in 2015-16

friendly transport are not always automatically true for every waterway, and can be realised only under certain set of circumstances which may not always be present⁷. Experience so far shows that the claimed benefits for the waterways also appear to be hyped up.

Further, the development of these waterways is having many serious social and environmental impacts, which are not being addressed. Indeed, there has been an attempt to systematically dismantle the environmental regulatory regime around waterways by exempting them from the environmental clearance process.

Let us take each of the aspects one by one.

We shall be mainly looking at the developments and position till March 2020, because after this, the entire economy has been badly affected due to the Covid-19 pandemic, and so the year after March 2020 is not a representative year. Thus, our assessment recognises that the pandemic has constrained developments in all sectors of the economy and we don't want the assessment of waterways to be adversely affected by considering this anomalous year.

⁷ See Manthan's Strategic Status Report 2017 for a detailed discussion on this. <https://www.manthan-india.org/wp-content/uploads/2018/04/Strategic-Status-Report-on-Inland-Waterways-V5-26-Apr-17-FINAL.pdf>

Allocation of Funds

The FAQs by IWAI identified “very low level of investment” as the first reason for poor development of inland waterways in India⁸. To address that, Shri Gadkari promised to bring in close to Rs 2,000 crores every year just from the Central Road Fund and use this to leverage Rs. 12,000 crores annually⁹.

Table 1 presents the investment (actual) by the Central government for inland waterways – both budgetary and extra-budgetary resources, as stated in the Parliament¹⁰.

Year	Grants	Extra Budgetary Resources (EBR)	Total
2015-16	322	-	322
2016-17	358	237	596
2017-18	426	335	761
2018-19	862	112	974
2019-20 (EBR upto 31 Dec 2019)	422	116	539
TOTAL	2,391	801	3,192

Table 1: Year wise actual expenditure on Inland Waterways (Rs. Crores)

The actual investments, though more than in earlier years, and rising over the years, are way below the Rs 2000 crores per year promised by Gadkari, and there is little evidence of any of the Rs. 12,000 crores that this was supposed to leverage.

The Budget 2020-21 allocated Rs. 678 crores¹¹ to inland waterways which was revised downwards to Rs.541.20 crores. Figures for actual expenditure are not

⁸ FAQs, Question number 22

⁹ The sources of fund for waterways would be central government grants in the budget, extra-budgetary sources like issue of bonds, funding from the World Bank (for Ganga waterway and now, in Dec 2019 approved for Assam waterways). In 2017, the Government amended the Central Road Fund Act, 2000 so that 2.5% of the Road Cess could be used for inland waterways. This worked out to be around Rs. 2300 crores, and it appears that this was the basis on which Gadkari promised to bring in Rs 2000 crores every year. While the Cess collection has remained at a level to provide Rs 2000 crore and more to waterways, the budgetary figures do not show any allocation to waterways from the Central Road and Infrastructure Fund, as it is now called. <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1592674>, <https://morth.nic.in/central-road-and-infrastructure-fund-act-2000>

¹⁰ Reply of Minister for Shipping (Independent Charge) Mansukh Mandaviya , in Lok Sabha, 6 Feb 2020. <http://164.100.24.220/loksabhaquestions/annex/173/AU788.pdf>. The figures as per the union budget data are slightly varying.

¹¹ Union Budget 2020-21, Notes on Demands for Grants, 2020-21, Ministry of Shipping <https://www.indiabudget.gov.in/budget2020-21/doc/eb/sbe90.pdf> Accessed 5 Apr 2020

available. Budgeted allocation for 2021-22 is Rs. 623.60 crores¹².

The Ganga waterway, under the Jal Marg Vikas Project (JMVP) is also getting support from the World Bank. As per the World Bank website¹³, disbursement amount from March 2018 till Jan 2021 is USD 107.12 million, which would be around Rs. 777 crores. It is not clear but this is likely to be in addition to the budgetary and extra-budgetary figures given above.

Apart from comparing with what was promised, it is important to compare the actual expenditure to the requirement. While it's difficult to put together total investment needed for the 37 waterways prioritised in the first phase, one available estimate puts the cost of development of NWs 1 to 5 and NW 16 (Barak)¹⁴ at Rs. 22,763 crores in 2014. Note that these are just 6 of the total 37 waterways which the Government had promised to develop in three years from 2016.

The following chart shows the funds spent so far (till March 2020) and the funds

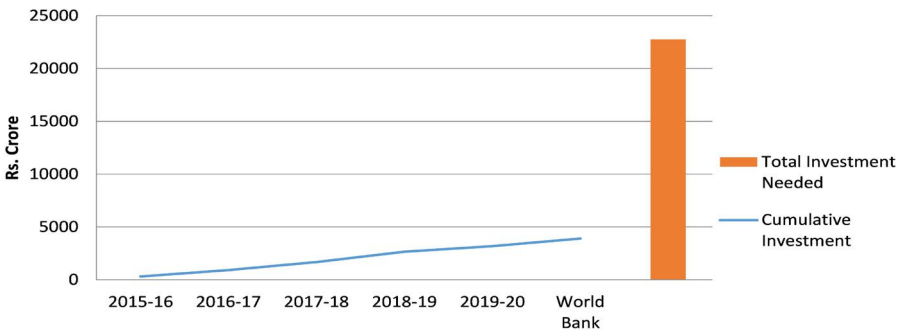


Figure 1: Comparing Annual Cumulative Investment in Waterways with Total Investment Needed (NW-1 to NW-5 and NW-16)

12 Union Budget 2021-22, Notes on Demands for Grants, as tabled in Parliament on 1 Feb 2021. <https://www.indiabudget.gov.in/doc/eb/sbe77.pdf> accessed 1 Feb 2021

13 Capacity Augmentation of National Waterway-1 (Jal Marg Vikas) Project, The World Bank <https://projects.worldbank.org/en/projects-operations/project-detail/P148775?lang=en> Accessed 15 Feb 2021, Conversion at Rs 72.6 to 1 USD as at the time of writing this, 15 Feb 2021.

14 RITES report, Integrated National Waterways Transportation Grid Study (Stage 1 of Phase II), Final Report, RITES, Gurgaon. Published by Inland Waterways Authority of India, New Delhi, 2014 Page vi and Page 137 http://www.iwai.nic.in/WriteReadData/l892s/INT_NAT_WAT_TRA_GRI_STU_Part1_3-26947128.pdf Accessed 27 Feb 2017

needed for the development of just six of the waterways, that is, NWs 1 to 5 and 16.

At this rate of investment, it will be close to 20 years before just the NW 1 to 5 and 16 can be fully developed. Since a large portion of the investment is going into the Ganga waterway¹⁵, it is likely that the others will be delayed much more.

It is worth noting that the IWAI also claims that it has managed to reduce the project costs for the JMVP from Rs 5369 crores to Rs. 4633 crores and has asked the World Bank to cancel US\$ 57.78 million from the loan.¹⁶ In early January 2021, the Government of West Bengal and the World Bank signed a loan agreement of \$105 Million to improve the inland water transport infrastructure in Kolkata, West Bengal.¹⁷ This is in addition to the loan for Jal Marg Vikas Project. Before that, January 2020¹⁸, the World Bank had signed a loan agreement \$88 Million with the Government of India and the Government of Assam to help modernize Assam's passenger ferry sector on its inland water transport network, mainly on the river Brahmaputra which is also National Waterway-2. Even taken together, these two new loans (at about Rs 1400 crores) also do not represent any substantial increase in funds available, compared to funds needed to develop the waterways.

We should also point out that this section deals only with the investment that the Government will be making. The other investments that are necessary to operate the waterway – like barges, warehouses, repair facilities etc. are not included in this.

With the level of financial outlay being much less than required, it is not surprising that the physical development of the waterways is also much slower, as we detail in the next section.

15 Expenditure on NW-1 was 63% of the total expenditure on national inland waterways in the year 2017-18, and 79% in the year 2018-19, as per the Statistics of Inland Water Transport 2018-19, Ministry of Shipping, Table 5.1, Page 42. It may be noted that as per the RITES report (Page 137), NW 1 will need around 38% of the total projected investment of Rs 22,763 crores.

16 Jal Marg Vikas Project, Project Implementation Status, July 2020 <http://iwai.nic.in/sites/default/files/Major%20Projects%20of%20IWAI-Report%20for%20July.pdf>

17 <https://www.worldbank.org/en/news/press-release/2021/01/05/world-bank-signs-usd105-million-project-to-improve-waterways-in-west-bengal#:~:text=The%20West%20Bengal%20Inland%20Water,contribute%20to%20the%20growth%20of>

18 <https://www.worldbank.org/en/news/press-release/2020/01/16/world-bank-help-modernize-waterways-assam>

Status of Development of Waterways and Related Infrastructure

The IWAI had promised that it would take up development of 37 waterways over three years (from 2016- 2019). What is the status of these of these 37 waterways today, four years later? According to the replies given by the Minister for Shipping to questions in Parliament¹⁹, the status as of March 2020 was as follows. Out of the 37, work has not even begun on 21 waterways. On remaining 16 waterways, development of waterway has started and is at various stages, and these waterways are operational partly, or to a limited extent. Apart from this, two waterways which were not listed in the original 37 prioritised waterways have been taken up for development, making a total of 18 waterways which are partly operational and where developmental activity has been taken up. However, it must be noted that many of these 18 waterways were already operational even before 2016 – e.g., the Amba waterway (now NW-10), Goa Waterways (now NW-27,68, 111), Sundarbans waterways (now NW-97) etc. The Figure 2 below summarises this status.

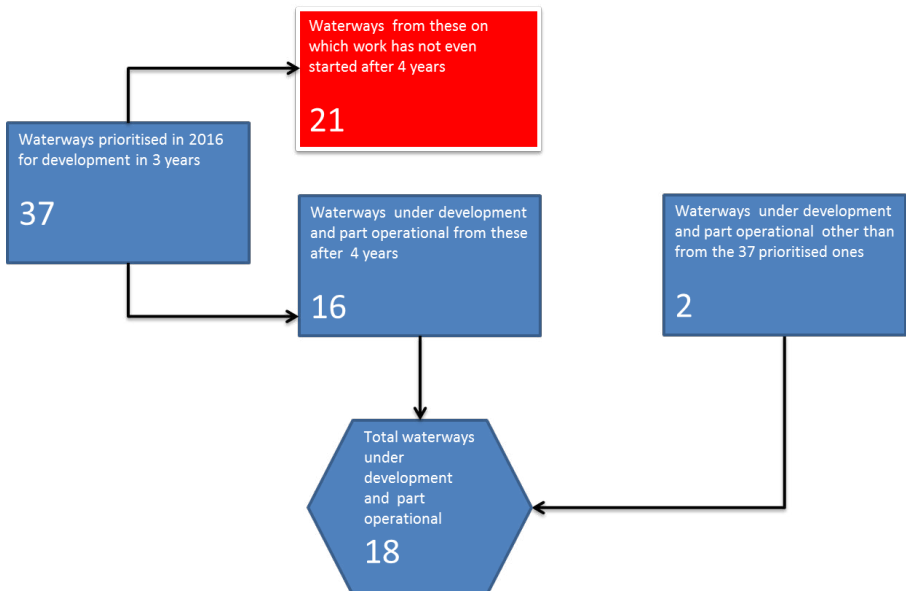


Figure 2: Status of Development of 37 Prioritised Waterways as on March 2020

What is critically important is that even for the operational waterways, most of the movement of cargo is taking place in the tidal reaches or downstream / coastal reaches of these waterways. We will come back to this point when we look at the viability related issues.

Further, in most of the waterways which are designated as operational, the actual vessel movement is happening only on a very small part of the waterway, indicating that very limited development has taken place as of now.

Lastly, most of the focus has been only on the Ganga waterway (NW-1), and to some extent on the Brahmaputra (NW-2) and the Indo-Bangladesh routes (part of NW-97), on NW-3 in Kerala, on Barak waterway (NW-16) and on the Vijaywada-Muktyala²⁰ stretch of NW-4. This is also confirmed by the Action Plan 2020 of IWAI²¹.

In terms of the DPR preparation, we find that out of 37 prioritised waterways, DPRs are ready for 31, while for 6 only the feasibility study reports are available. This is based on examination of the DPR/FR reports on the IWAI website as well as responses to RTI queries by Manthan. It needs to be stressed that the quality of the DPRs leave much to be desired. Many DPRs have mistakes in several of their calculations. Latitude-Longitude coordinates given are wrong in several cases. Most DPRs don't deal with the social and environmental impacts of the waterways.

Ganga Waterway

Since the Ganga waterway has been the main focus of the entire waterways' development effort, it is instructive to see the progress on this in some more detail.

The World Bank has been monitoring the progress based on some key indicators. As per this monitoring²², in the time period from 31 Dec 2016 / 1 Jan 2017 to 16 March 2020 the project has managed to increase the capacity of vessels that the waterway can support to 1500 tonnes from 1000 tonnes, and has increased days available for transport operations per year from 270 to 280. Moreover, the

least available depth has been increased from 1.5 m to 2.5 m. However, these improvements have not happened over the entire stretch of the proposed waterway (from Haldia to Varanasi). For example, while the claim for least available depth is that it has been increased to 2.5 m, the break-up for different stretches shows that two stretches which had depths below 2.5 m remain below 2.5 m. Thus, depth in

20 PIB release dated 02.10.2017, 'Vice President to lay foundation stone for the development of Muktyala to Vijaywada stretch of Krishna River' <https://pib.gov.in/newsite/PrintRelease.aspx?relid=171321>

21 IWAI's Action Plan for Development of National Waterways in India, April 2020 mentions the status of 17 NWs which have been identified for development. Out of these NWs, work under 13 NWs is being implemented. Out of these 13 NWs, only NW-1 (under Jal Marg vikas Project), NW-2, NW-16 (NER) and IBP have gotten the FC approval. It mentions that NW-3,4,5,8,9,27,68,111,86 and 97 will be taken up in the year 2020-21 and in subsequent years after the SFC/EFCC approval. http://iwai.nic.in/sites/default/files/Categorization%20of%20NWs_0.pdf

22 <https://projects.worldbank.org/en/projects-operations/project-detail/P148775?lang=en#results>

Accessed on 18 Feb 2021

the Varanasi-Ghazipur stretch went up from 1.5 m to 1.8 m while that in Barh to Ghazipur remained at 2 m.

Interestingly, the cost of transport, which is put forward as a key advantage of waterways, remained unchanged at Rs. 1.1 per ton-km.

Thus, so far, the development of the Ganga waterway shows limited improvements in the basic parameters like depth of the channel, capacity of vessels the waterway can support etc., and are also quite short of the ultimate targets. Certainly, the development from baseline to the final target may not be linear so initial development may be slow and it may pick up later so as to meet the final targets, but this can be assessed only at the end of the project development timeline. As of now, the picture does not show much improvement from the baseline. The significance of this is clear when we look at (in subsequent sections) the actual movement of cargo and difficulties with the navigation on the Ganga.

Apart from the development of the fairway, two multi-modal terminals have also been completed on the Ganga waterway, at Varanasi (inaugurated in Nov 2018²³) and at Sahibganj (inaugurated in Sept 2019²⁴) and construction of the third at Haldia is ongoing. However, as the next section shows, the actual utilisation of these terminals has been abysmal.

23 <https://pib.gov.in/Pressreleashere.aspx?PRID=1552538> Accessed 12 Nov 2018

24 <https://pib.gov.in/PressReleaselframePage.aspx?PRID=1584628> Accessed 11 Sep 2019

Movement of Cargo

Slow and Uneven Growth

Ultimately, the measure of development of a waterway is the goods and passengers it has been able to move. The movement of goods on the national inland waterways is increasing over the last years, going up from 30.40 Million Metric Tons (MMT) during 2014-15 to 73.64 MMT during 2019-20 (Figure 3).²⁵ If we see the years after passage of the Act, then the cargo movement went up from 55.47 MMT in 2016-17 to 73.64 MMT in 2019-20, representing an annual growth of ~10%. However, this growth is likely to be an overestimate as the cargo moved on Gujarat waterways, which is quite high was counted only from 2017-18, that of Sone and Ichamati from 2019-20, and there appears to be a double counting of the traffic on Sundarbans waterways.

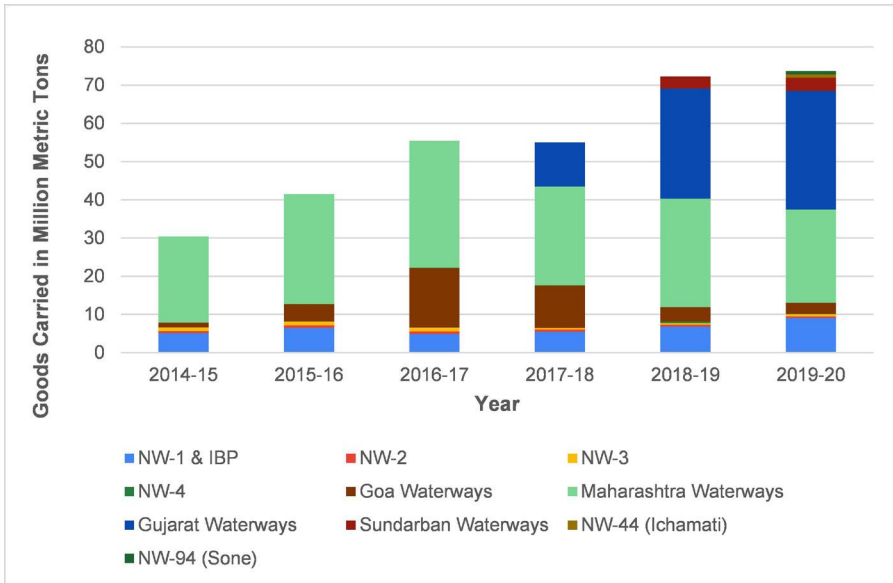


Figure 3: Goods carried on National Inland Waterways from 2014-15 till 2019-20

Interestingly, if we look at the trend more than a decade back, then we see a very different picture. The following figure from the IWAI’s portal Cargo-Data shows²⁶ that the cargo carried on all the inland waterways together steadily increased to

25 Cargo Movement for National Waterways-1,2 & 3, Goa, Maharashtra and Gujarat Waterways from FY 2014-15 to FY 2018-19 <https://iwai.nic.in/showfile.php?lid=1415> accessed on 6 Apr 2020 , updated with <http://iwai.nic.in/sites/default/files/statment%202020.pdf> accessed 6 Jan 2021
 26 <https://iwaicargoportal.nic.in/web/home/dashboard> accessed 18 Feb 2021

74.3 million ton till 2010-11, and then fell sharply in 2012-13 (mainly due to the Supreme Court ban on mining/export of iron ore in Goa) before rising again in the recent years.

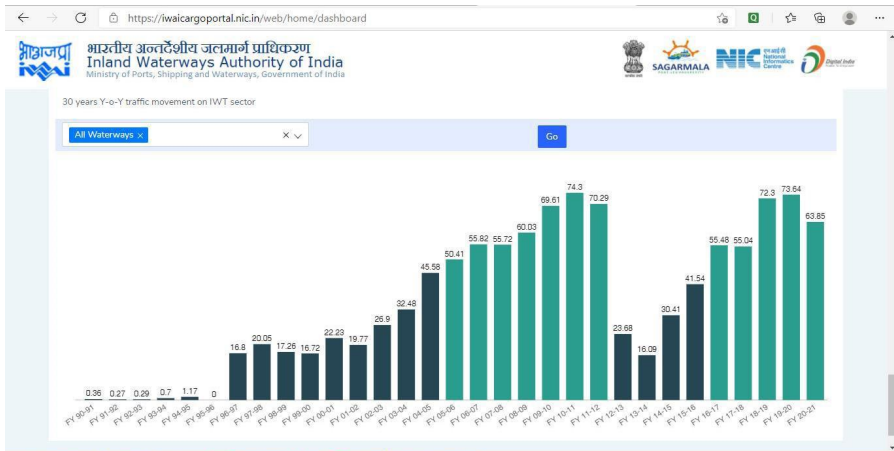


Figure 4: 30 years Year on Year traffic movement on Inland Water Transport sector in India.
 Source: <https://iwaicargoportal.nic.in/web/home/dashboard>

Gujarat and Maharashtra Have 75% of Traffic Share

If we look at the movement of goods waterway-wise, we see very disproportionate shares of different waterways in this traffic.

More than 75% of the total cargo moved on National Inland Waterways in 2019-2020 was on the waterways of Gujarat and Maharashtra; and within this, just two waterways contributed the overwhelming share, with NW-100 on river Tapi accounting for 99% of the inland waterways traffic in Gujarat and NW-10 on the river Amba contributing 90% of the Maharashtra inland waterways traffic. It is imperative to note here that some of these National Waterways – such as NW-10 on river Amba -have been operational well before the National Waterways Act was enforced in 2016.

It is worth noting also that many of the waterways which contribute the highest traffic movement are in the tidal waters or river mouths. In fact, the IWAI does not plan any interventions in these waterways, as its recent Action Plan says²⁷:

27 Action Plan for Development of National Waterways – IWAI, April 2020

“.. in 6 more new NWs viz. NW-73, 100, 94, 83, 85, 91 (Annex-VII), substantial cargo have been moved in tidal waters and river mouth under respective State maritime board of Gujarat, Maharashtra and Goa. No interventions are contemplated in these areas as they are being developed and are mostly run by private entity.”

The flagship project of NW-1 (Ganga) carried 12.4% of the total cargo carried on inland waterways in the year 2019-20 and within this most of it was in the Haldia and downstream stretch and the Indo Bangladesh routes, which have been operational for many years. The traffic between Haldia and Varanasi was just 9% of the total on NW-1, and it “primarily consists of sand movements originating from Koelwar (confluence point of River Ganga and River Sone in Bihar) and travelling to different points located on River Ganga (NW-1).”²⁸

Another way of looking at the traffic is the ton-kilometer (ton-km) figures as against just the tonnage of goods transported. One ton-km means one ton of goods transported through one kilometre. In this also, there has been a steady growth, as Figure 5 shows²⁹.

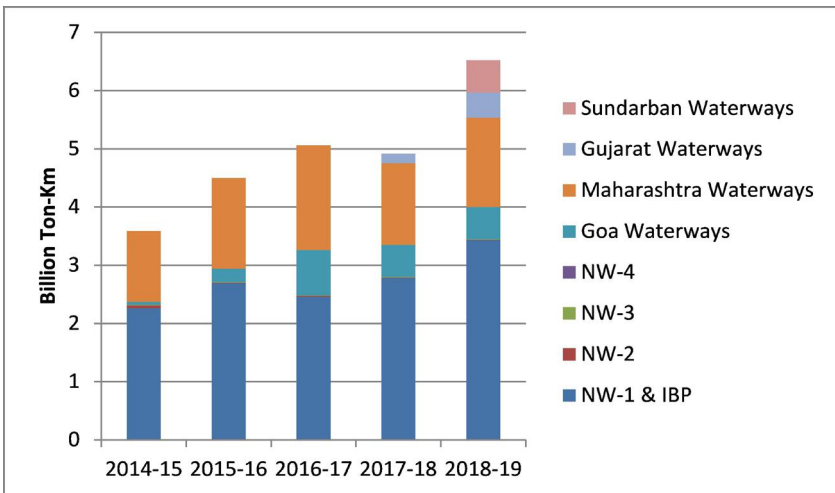


Figure 5: Cargo movement on National Waterways on Billion ton-km

In this case, the highest share is for the Ganga waterway (53% in 2018-19), due to the long distances covered by goods in this waterway, and the second highest is for Maharashtra waterways (23%), where distance covered is smaller but tonnage is

28 Annual Report on Traffic on National Waterways: FY 2019-20, IWAI. Pages 6, 10
 29 Source: <https://iwai.nic.in/showfile.php?lid=1415> Accessed on 6 Apr 2020

significantly higher. The average distance over which cargo was moved in 2018-19 in National Waterway-1 on Ganga was 395 km³⁰. The average distance travelled in the Ganga waterway in 2017-18 was 506 km³¹. Large part of the traffic on the Ganga waterway is between the Farraka –Haldia stretch (which is around 560 km) and on the Indo-Bangladesh route³². This is the stretch of the NW-1 that has been developed and operational since last many years.

The figures for cargo handling at the terminals and ports upstream of Farakka support this conclusion. As per the reply by IWAI to a Right to Information (RTI) query by us, the details of cargo handled at the major river ports or terminals upstream of Farakka are given in Table 2.

Terminal	From	Number of Months	Cargo handled in Metric Tons
Varanasi	Inaugural Nov 2018 to Jan 2020	14	281.8
Sahibgunj	Inaugural Nov 2019 to Jan 2020	2	3725
Gaighat (Patna)	March 2018 to Jan 2020	22	1809

Table 2: Cargo handled at the major terminals (situated upstream of Farakka) on NW-1

To put these figures in perspective, one should note that the IWAI has targeted cargo handling at 3.55 million metric tonnes by 2020 at the Varanasi terminal.³³ For the Sahibgunj terminal, “the projected traffic volume of Sahibganj MMT is 2.24 Million Tonne Per Annum (MTPA) by 2020-21” as per reply to a question in the Rajya Sabha by the Shipping Minister³⁴ on 15 July 2019.

A visit by a team member of Manthan to the Varanasi terminal in February 2020 showed the whole place to be desolate with no cargo handling happening. The member was informed during the visit that only three cargo movements had taken place at the terminal since its inauguration. Subsequently, the Inland Waterways Authority of India conducted a “trial movement” after two years of

30 Statistics of Inland Water Transport 2018-19, Ministry of Shipping, Page vi <http://shipmin.gov.in/showfile.php?lid=2975>

31 Statistics of Inland Water Transport 2017-18, Ministry of Shipping Page vi <http://shipmin.gov.in/showfile.php?lid=2817>

32 Statistics of Inland Water Transport 2017-18, Ministry of Shipping Page 15-26

33 Press Information Bureau Release, Ministry of Shipping, 6 December 2018 <https://pib.gov.in/newsite/PrintRelease.aspx?relid=186148>

34 Press Information Bureau Release, Ministry of Shipping, 15 July 2019, <https://pib.gov.in/Pressrelease-share.aspx?PRID=1578785>

the inauguration of the Varanasi multi-modal terminal via a 350 tonne capacity vessel MV RN Tagore which sailed from Varanasi on December 29, 2020 with a container load of only 25 tonne of fertiliser. The vessel reached Patna’s Gaighat terminal on 2nd January 2021. The vessel took nearly five days to reach Patna from Varanasi due to problems it encountered along the route, mainly the pontoon bridges on the Ganga between Varanasi and Patna³⁵. In Patna, this vessel had to wait for 10 days in hope of more cargo. Only four more containers of 25 tonnes carrying carbon dust were loaded in Patna for its journey towards Haldia in West Bengal³⁶. It may be noted that this vessel RN Tagore has reached Varanasi in August 2020 and had to wait close to 5 months before it could even get 25 tonnes of cargo.³⁷

Major Commodities on the National Waterways

Bulk commodities, that is coal and coke, iron ore, fly ash, limestone etc. constitute more than 90% of the overall traffic on national waterways, according to IWA’s Annual Report of Traffic on National Waterways 2019-20. The Figure 6 below gives the details³⁸.

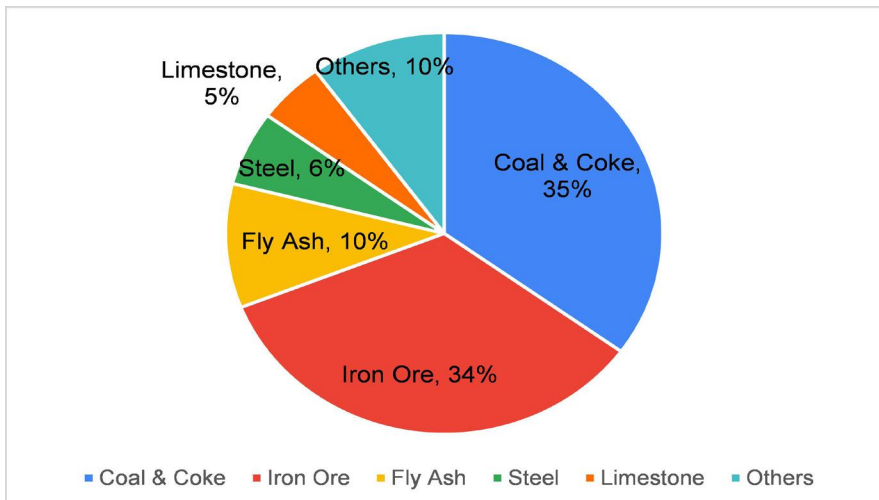


Figure 6: Commodity Profile of goods carried on National Waterways in 2019-20.

35 <https://www.newsclick.in/bihar-vessel-5-day-reach-patna-varanasi-casts-doubts-water-transport-project>

36 <https://m.jagran.com/news/state-mv-tagore-ship-will-leave-kolkata-today-with-four-container-items-from-patna-21263805.html>

37 <https://www.jagran.com/uttar-pradesh/varanasi-city-tagore-ship-carrying-25-tonnes-of-urea-to-kolkata-from-varanasi-will-also-be-uploaded-in-patna-21216087.html>

38 Source: Annual Report of Traffic on National Waterways: FY 2019-20

Have Claimed Advantages Materialised?

Cost of Transport

Since the major advantage offered by water transport is said to be its low cost, it is important to see what have been the costs for the movement of goods described above, and whether any cost-benefits have been realised.

The World Bank's website gives several indicators for monitoring the progress on the Ganga waterway (Jal Marg Vikas Project). As per latest information available on the website³⁹, there has been no reduction in the cost of transporting cargo on the waterway. It was Rs 1.11 per ton-km on 1 Jan 2017 and remained the same as on 21 Dec 2020, after several years of work on the project. This is also confirmed by the Bank's periodic Implementation Status & Results Reports for the Ganga waterway⁴⁰.

It is worth recollecting that as per RITES Report of 2014 on Integrated National Waterways Transportation Grid (INWTG) the cost of cargo transport by Rail is Rs. 1.36 Rs/ton-km, and for waterways it is Rs. 1.06. Clearly, the cost of cargo transport on the Ganga waterway remains high, and difference with railways is only marginal, particularly when totals costs of door-to-door (origin to destination, and not just the part relating to transport over water) is considered. It should be kept in mind that apart from the issue of waterways not being able to provide door-to-door delivery, the total distance by waterway can also be higher than the rail/road distance, thus often offsetting the cost-differential.

Unfortunately, neither the IWAI nor any other authority has released any data on the costs for transport of cargo on inland waterways, though there are regular releases highlighting pilot movements, landmark movements etc. Claims by IWAI that inland water transport is lower in cost are being made more as generic statements and not based on the specific costs for specific waterways, which is what is really important. This leads us to question whether the reason why IWAI is not releasing any cost data is because in actual practice, inland water transport remains high-cost contrary to the generic claims.

39 <https://projects.worldbank.org/en/projects-operations/project-detail/P148775> Accessed 1 Mar 2021

40 The Bank's periodic Implementation Status & Results Reports on the Ganga waterway provide the cost of movement of goods as one indicator of progress on Project Development Objectives. The latest report, dated 26 Jun 2020 clearly shows that there has been no reduction in the cost of transporting cargo on the inland waterways between Haldia and Varanasi. The cost on 1 January 2017 was Rs. 1.10 per ton-km, and on 16 Mar 2020, after several years of work on the project, remains the same. Available at <http://documents1.worldbank.org/curated/en/622071593204171893/pdf/Disclosable-Version-of-the-ISR-Capacity-Augmentation-of-the-National-Waterway-1-JAL-MARG-VIKAS-Project-P148775-Sequence-No-06.pdf> Accessed 1 Mar 2021

Another insight into the real costs of transport by inland waterways is provided by the demands for continuing and increasing the several incentives and subsidies being given to inland waterways. These indicate that the claim of inland waterways to be cheaper may not always be valid, and that the current movement may be partly due to these incentives than any inherent advantages of inland waterways.

The Scheme for Incentivizing Modal Shift of Cargo” or “SIMSC” by the Ministry of Shipping is one example, where there are incentives for transport of bulk cargo over water or for RO-RO transport⁴¹.

Even if one allows for the fact that some incentives are often needed to encourage a shift to a new practice, the clamour for further subsidies from various quarters raises questions on how cheap waterways transport really is.

For example, Summit Alliance Port (SAPEL), a Bangladesh based company that has been given charge for operation of two terminals at Kolkata port, has asked for subsidy for the use of the national waterway -2 (Brahmaputra), at least in the short term as currently the cost of transport is coming to Rs 3000 per ton and this has to be brought down to Rs. 2300-2500 per ton if the corporates are to find it economical to use the waterway⁴². Others⁴³ are recommending “incentives, including tax subsidies, for transporting a portion of industry cargo through IWT”, for the government to “mandate/incentivise industries in the proximity of national waterways to use this mode for a portion of their shipments”.

Dependability

Apart from costs, dependability is a key factor for any transport mechanism to find wide acceptance. Reports indicate that in many instances, vessels are getting stuck and are not finding reliable fairway of adequate depth and clearances. Such incidents are happening at regular intervals, creating uncertainty in the time (and cost) for delivery of goods through IWT.

For instance, in January 2020, machines of some 521 tonnes coming from Japan for HURL were stuck at Barauni (on the Ganga) as the vessel was not able to move due to insufficient water depth⁴⁴. In another incident, in November 2019, a vessel set sail from Haldia for Pandu port, Guwahati, on a journey described by

41 PIB Release 10 March 2016 <https://pib.gov.in/newsite/PrintRelease.aspx?relid=137707>

42 Business Standard 6 Jan 2019 https://www.business-standard.com/article/pti-stories/call-for-subsidy-in-kolkata-ne-cargo-movement-via-waterways-119010600459_1.html

43 <https://www.thehindubusinessline.com/opinion/flowing-down-the-waterways/article23384237.ece>

44 <https://www.jagran.com/uttar-pradesh/gorakhpur-city-machines-coming-to-gorakhpur-fertilizer-factory-stuck-near-barauni-19898432.html>

Ministry of Shipping as “landmark”⁴⁵. This was “the first ever containerised cargo movement on this Inland Water Transport (IWT) route” and was “expected to establish the technical and commercial viability of IWT mode using these multiple waterways” (that is, linking NW-1 on Ganga to NW-2 on the Brahmaputra via Bangladesh). However, these vessels⁴⁶ got stuck near Sirajgunj and had to be rescued with use of dredgers. Again, one of them got stuck at Chilmari. The journey was to be done in 12 days, but after a month, the vessels were still 200 km from destination. This was a trip that was specifically planned to establish the technical and commercial viability. While these are incidents of ships getting stuck due to lower water depths, vessels are facing problems even when the river flows are high. In August 2019⁴⁷, a vessel of Adani with 52 containers was stuck at Bhagalpur for 10 ten days due to the increase in water-level in Ganga, as there was not enough vertical clearance for the ship to cross the Vikramshila bridge. The container cargo was ultimately transported to Gaighat terminal in Patna through trucks.

The reasons behind these instances include the haste to push ahead and show operations on a waterway, without adequate preparations either in terms of creating appropriate depths or other mechanisms to handle goods; the high costs of continual dredging and other measures to maintain the waterways, and the apprehension that the traffic may not justify these costs, resulting in less than adequate maintenance; and the sheer scale of the difficulties like heavy siltation in rivers like Ganga that make it very difficult and costly to maintain the waterways. All of these reasons operate individually and in a combined manner, impacting reliability of inland water transport and indicating that dependability of the inland water transport mode in the country is still a distant reality.

45 Press Release, Ministry of Shipping, 3 Nov 2019 <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1590148> accessed 10 Dec 2019.

46 Reports indicate 2 other vessels also accompanied this vessel in the journey. <https://economictimes.indiatimes.com/industry/transportation/shipping/-/transport/dry-run-indias-plan-for-an-inland-water-route-from-kolkata-to-guwahati-hits-a-rough-patch/articleshow/72419509.cms?from=mdr>

47 <https://www.bhaskar.com/bihar/patna/news/ship-on-gaighat-jetty-could-not-reach-trapped-on-the-way-061005-5396645.html>

Serious Questions of Viability

Conversely, to address these factors and ensure dependability means higher expenditure to maintain the waterways, including the necessary depth and infrastructure. It is a moot question as to how such higher levels of expenditures will impact the viability of inland waterways.

It is not a coincidence that maximum cargo movement is still taking place on small stretches with significant tidal influence (like Tapi and Amba rivers), where it is easier to maintain depths at lesser costs (though these have some of the most significant ecological and social impacts as these estuarine areas are the very sensitive and productive zones). In the Ganga waterway too, maximum transport is taking place at the lowest stretches where tidal influence helps maintain depth. Even here, barges queue up and bunch up, and wait for the tides before moving out together in a group.⁴⁸ This was also observed in a field visit done by a team member of Manthan in the Haldia, Kakdwip and Namkhana stretches of the Indo-Bangladesh Protocol route. Cargo movement in this stretch is recorded as cargo movement of Ganga Waterway.

This raises the question whether other (non-estuarine, non-tidal zone) sections of proposed waterways can really be viable commercially and technically, or would the costs of dredging to create and maintain depths be prohibitive? The statements of the Ministry of Shipping and IWAI themselves seem to indicate that the viability of most of these waterways is questionable.

In a reply⁴⁹ to a question in Lok Sabha on 6 Feb 2020, Shri Mansukh Mandaviya, Minister of State for Shipping (Independent Charge) stated that:

“Based on the techno-economic feasibility and Detailed Project Reports (DPRs) of the 106 new National Waterways (NWs) undertaken by the Inland Waterways Authority of India (IWAI), 20 NWs have been found to be technically feasible for shipping and navigation activities.”

The most straightforward interpretation of this statement is that rest of the others have been found to be unviable.

48 Detailed Feasibility Study for Capacity Augmentation of NW-1 and Detailed Engineering for its Ancillary Works and Processes between Haldia to Allahabad (Jal Marg Vikas Project) (2017), Page 175 accessed through RTI application by Manthan.

49 Reply of Minister for Shipping (Independent Charge) Mansukh Mandaviya, in Lok Sabha, 6 Feb 2020, Starred question No. 78, 'Development of Inland Waterways' <http://164.100.24.220/loksabhaquestions/annex/173/AS78.pdf>

The “Action Plan for Development of National Waterways (NWs)”⁵⁰ launched by IWAI in April 2020, affirms our apprehensions and clearly admits that as many as 63 of waterways proposed in 2016 with lot of publicity are really not viable. The Action Plan summarises the feasibility status of waterways as below, based on the “detailed analysis of the outcomes and recommendations of the FRs / DPRs, input from stakeholders”.

	Feasibility	Number of Waterways
Category A	Feasible NWs with Cargo	18
Category B	Feasible NWs with only Tourism potential / Ferry / Cruise	25
Category C	NWs not feasible for Cargo / Cruise	63
	TOTAL	106

Table 3: Categorization of National Waterways on the basis of their feasibility status

In fact, our analysis shows that even among the waterways categorised as “feasible” in the above Action Plan, many will struggle to be financially viable due to the very factors make viability of most waterways questionable – lack of adequate depths in rivers, low flows, high cost of dredging, obstructions like bridges, waterworks, waterways not able to provide door to door connectivity and the added cost of that, high siltation etc. The Action Plan itself notes these factors as among those responsible for non-feasibility of the Category B and Category C waterways.

A recognition of the serious questions on the viability of proposed waterways is also likely to be an important factor in the recent scaling back of the ambitious targets and plans by IWAI. In Dec 2019, the IWAI revised its target of cargo transport on inland waterways from 150 million tons in 2021-22 to 100 million tons⁵¹.

On individual waterways too, a sense of realism seems to have tempered the earlier unrestricted optimism. Out of the 10 waterways on which work has been initiated, further “development process will be synchronised with cargo demand”,

50 Action Plan for development of National Waterways (NWs), IWAI 2020 http://iwai.nic.in/sites/default/files/Categorization%20of%20NWs_0.pdf

51 See for example <https://economictimes.indiatimes.com/industry/transportation/shipping/-/transport/iwai-revises-cargo-handling-target-to-100-mt-on-national-waterways-by-fy22/articleshow/72923381.cms> Accessed 24 Dec 2019

for Gandak, Kosi and Ghaghra waterways, as per a reply⁵² of Minister of Shipping given to a question in Parliament on 6 Feb 2020. It may be mentioned that as per plans as late as Jul 2018, the Gandak waterway was to be made operational in two years (i.e., 2020)⁵³ Similarly, Phase-1 of the Ghaghara Waterway (NW-40) was to be completed by 2019-2020.⁵⁴

The response of the private sector is also indicative. IWAI had proposed operation, management and development (OMD) of the multimodal terminals at Varanasi and Sahibganj under the PPP model on tender-cum-auction basis. Bids were invited and tender process for Varanasi terminal was concluded on 15 Jan 2020. There were no bids⁵⁵! This indicates either that private players don't see much potential in the terminal, or that they want the terms to be more favourable to them – which, if IWAI agrees to, would most certainly imply higher costs for the cargo handling at the terminal.

Thus, we see many indicators not only of serious questions on the viability of many of the inland waterways, but also some signs of the recognition of this issue.

52 Reply of Minister for Shipping (Independent Charge) Mansukh Mandaviya, in Lok Sabha, 6 Feb 2020, Starred question No. 78, 'Development of Inland Waterways' <http://164.100.24.220/loksabhaquestions/annex/173/AS78.pdf>

53 Reply of Shipping Minister to a question in Rajya Sabha, 30 July 2018, as per Press Information Bureau Release, Ministry of Shipping, 30 July 2019 <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1540681>

54 Press Information Bureau Release, Ministry of Shipping, 8 October 2018, <https://pib.gov.in/newsite/PrintRelease.aspx?relid=184032>

55 IWAI Status of the Major Projects of Inland Waterways Authority of India <https://iwai.nic.in/showfile.php?lid=793> Accessed 15 March 2020

Social and Environmental Impacts

The creation, maintenance and operation of inland waterways have huge adverse environmental and social impacts. Dredging is a highly intrusive activity that can damage river bed habitats, and along with river straightening and training works, river protection works, lead to severe impacts on river habitat and ecology. Dredging can release toxic pollutants that have previously settled on river beds, as well as create noise and turbidity. Operation of vessels leads to leakage of oil and lubricants, heightened noise and increase in turbidity, all with serious impacts on the flora and fauna. Bank erosion due to vessel movement is another major impact. Accidents of vessels carrying hazardous cargo pose additional risks.

Fisher people are doubly affected, as fish populations are affected due to all of above; and the movement of large vessels often requires restricting or prohibiting access of fisherpeople to their fishing areas; leads to the tearing apart of nets by barges and other vessels; and forces relocation of fishing jetties.

Last but not the least, land acquisition for terminals, jetties and other infrastructure also leads to displacement and loss of livelihoods.

All these impacts are already being felt. Fisher people are the most severely impacted.

Impacts on Fishers

A visit to the Varanasi terminal in February 2020 by Manthan team member clearly showed fishing nets, fishing boats and small boats and ferries operational in the navigation channel near the passenger jetty. We were told that they are allowed here as of then because there is no movement of cargo as such. But it is clear that when the terminal is operational on a regular basis, these fisher people would not be able and/or allowed to do their activities here. (See Figure 7)

In Namkhana, (part of the Sundarbans Waterway and Indo Bangladesh Protocol route) Manthan team member was told⁵⁶ by a local fisherman that bank erosion was a massive worry for them. He described how the bank where he was standing had 40 huts at one time, but the whole place had been washed away. In a separate meeting with fishers belonging to the National Platform for Small Scale Fish Workers (Inland), the fishers described their experiences with the cargo movement in the Ganga waterway, mainly downstream of Farakka. They said that fishing nets are damaged, stakes are uprooted on a regular basis by the barge movement.

56 Field visit February 2020

Shock waves created due to movement of barges lead to bank erosion. Sometimes small boats are overturned due to large barges. Fish move away due to movement of barges decreasing the fish catch. Often, vessels move outside the designated navigational channel, damaging the nets of the fishers. They described how, in Khejuri, dredged material is dumped just outside the navigation channel which makes fishing harder.



Figure 7: Passenger jetty of the Varanasi Multi-modal terminal on 08.02.2020. Fishing nets and fishing boats can be seen in the vicinity of the passenger jetty. Photo: Avli Verma

In fact, IWAI sees fishing nets (and by extension, activities of fishers) as a major problem and obstruction to movement of vessels and there is a clear push to remove fishers from the waterways. This is seen from an earlier report of the CAG for NW-3 in Kerala⁵⁷, which states:

“Fishing nets erected by fishermen in waterways have been hindering navigability through NW-3 ever since its formation in 1993 ... IWAI had been pursuing the matter of removal of fishing nets from NW-3 with GOK. Accordingly, after several rounds of discussion with fishermen communities, GOK decided to compensate the fishermen

57 Report of the Comptroller and Auditor General of India on Economic Sector for the year ended March 2015, Government of Kerala, Report No. 4 of the year 2016, p 14 https://cag.gov.in/sites/default/files/audit_report_files/Kerala_Economic_Sector_Report_4_2016.pdf

for removing licensed and unlicensed nets and had paid 10.32 crore as compensation till date (July 2015). The payment of compensation to unlicensed nets encouraged fishermen to erect such nets again. It was observed that 74 nets were still remaining in NW-3 as of July 2015 thereby affecting cargo movement.”

Our discussions with fishers indicate that it would not be the greed for compensation that led to fishers to erect nets again (which would require them to incur significant costs). It was more likely simply a matter of survival as fishing is the only means of livelihood they have. Examples in many sectors have shown that cash compensation is not able to replace means of livelihoods in most cases of communities dependent on natural resources.



Figure 8: The Alaknanda cruise operational at the Assi Ghat on the river Ganga in Varanasi. Photo: Vikas Kumar.

Another impact of waterways can be seen on the boatpeople / fisher people in Varanasi, as was told to Manthan team member by the representatives of the mallah (boatpeople) community. They said that the development of the inland waterways included introduction of cruise vessels in Varanasi for the local sightseeing. Currently, around 5000 boats and 50,000 families are dependent directly for employment through small boats and tourism. But the introduction of the first cruise vessel (see Figure 8) has shown that tourists from India and outside will go to the cruises. Plans for wildlife tourism and big cruises are also already underway. Water sports and jet skis have also given permission by Nagar Nigam. The problem is that while all these are being run by bigger players and outsiders, the mallah / majhi community who had proposed running houseboats, have been denied permission. During the monsoons, the Mahasagar cruise is allowed to

operate, while most of the smaller boats are restricted from operations in the river.

It's possible that the restrictions on the smaller boats may be out of concerns of safety. However, in that case, a better approach would be to make these boats safer, or provide local boatpeople with safer boats rather than restrict them and deprive them of livelihoods.

Thus, it seems clearly that the local communities who have traditionally been dependent on the river and fish and boating are being displaced economically and are losing their livelihoods to the "development" of the waterways. Instead of this, what is needed is for these communities to be included and made party to new developments so not only are their livelihoods protected, but also enhanced.

Other Ecological Impacts

There are several other impacts also being felt.

A recent Study by Dey et al. (2019)⁵⁸ in Scientific Reports in Nature highlights the severe impacts of noise on Gangetic Dolphins (*Platanista gangetica*). The study points out, among other things:

"Our study established that increase in underwater noise due to motorised vessels resulted in major alterations to acoustic responses, strong masking of echolocation clicks, and high metabolic costs to river dolphins in the Ganga River...

"...Our model predicts that *Platanista* would need to feed on 2–4 times more prey (8–16% of body weight) per day to compensate for energy loss in responding to doubling or quadrupling of daily underwater noise levels. In reality, such increases in prey intake are not possible due to satiation, as dolphins cannot eat more than 4% of their body weight in one day...

"Disorientation or fatigue from prolonged response to underwater noise is also likely and could result in higher probability of propeller hits. Mortality of dolphins from propeller hits is not uncommon, for example, in the Hooghly River (West Bengal, India)

"The endangered Ganges river dolphin is a flagship species for river

58 Dey, M., Krishnaswamy, J., Morisaka, T., & Kelkar, N. (2019). Interacting effects of vessel noise and shallow river depth elevate metabolic stress in Ganges river dolphins. *Scientific reports*, 9(1), 1-13. <https://www.nature.com/articles/s41598-019-51664-1> Accessed 28 Feb 2020

conservation and also India's "National Aquatic Animal". Forthcoming species recovery and conservation action plans for the species need to recognize underwater noise as an important and emerging threat, and work towards scientific monitoring and mitigation of noise impacts on endangered riverine fauna."

According to Prof. Sunil K. Choudhary, Professor & Former Head, University Dept. of Botany, T. M. Bhagalpur University, "an increase in arsenic content in river water from 5 ppb to 100 ppb was noticed due to dredging activities in the Ganga waterway⁵⁹," measured during active dredging in the Ganga in Bhagalpur. He also recommended that there is a need to generate systematic data on toxic contaminants including heavy metals released from river sediments during dredging.

In Manipur, waterways are being planned in the iconic Loktak Lake under the Loktak Inland Waterways Improvement Project (LIWIP). The project aims to extend and expand the motorised inland transport on the Loktak Lake wetland, by augmenting the machinery and equipment that will clear the lake of all obstructions to the water transport. This is not only threatening the livelihoods of the local communities and particularly the hundreds of members of the fishing community, but also is likely to destroy the very things that make the Loktak Lake an ecological wonder and an attractive tourist destination. Since January 2020, the communities affected by the project have been leading an intense challenge to this process, and calling for a solution that will address the needs of livelihoods as well as preserving the ecology of this important Ramsar site⁶⁰.

Risks of Accidents

The IWAI asserts⁶¹ that waterways are "best suited mode of transportation for ... hazardous goods..." This statement is astounding because any leakage during transport or spillage / escape of hazardous goods in case of accidents are likely to contaminate vast stretches of water, with severe impacts on the ecology, flora fauna and communities dependent on the river.

Unfortunately, accidents of barges and water transport vessels are not uncommon at all, and can have major consequences. A most recent case highlights the dangers. On 12 March 2020, a Bangladeshi barge MW Mamatamoy Maa, carrying 1225

59 Presentation at Consultation on Inland Waterways held in New Delhi on 21st Jan 2020.

60 See a critique of the Loktak Inland Waterways Improvement Project (LIWIP) at <https://www.manthan-india.org/wp-content/uploads/2020/03/Critique-Loktak-IWT-Manthan.pdf>

61 FAQs released by IWAI for Jal Marg Vikas Project available at <http://jmvp.nic.in/sites/default/files/FAQ%20JMVP%20Final%20PDF.pdf>

MT of fly ash, collided with a port vessel at Budge Budge on the Hooghly river near Kolkata and capsized⁶². This has led to the large-scale contamination of the stretch of the river with the fly ash that the vessel was carrying and creating the risk of the leakage of the fuel oil and lubricants, resulting in further pollution. Newspaper reports indicate that the West Bengal Pollution Control Board has already collected samples from the spot and “it fears that the toxic fly ash can adversely hit a much wider and longer course of the river.”⁶³



Figure 9: A loaded barge (front) in the Namkhana stretch of Indo Bangladesh Protocol route/Sundarbans Waterway (NW-97). Photo: Avli Verma

Between March 2020 and May 2020, five such fly ash laden barges sank⁶⁴ in the various stretches of Hooghly rivers and rivers of the Sundarbans which are a part of National Waterway-1 and National Waterway-97.

The risks associated with such movement of fly ash is even more concerning given that 97.2% of all commodities moved on the Indo-Bangladesh protocol route on

62 <https://www.telegraphindia.com/states/west-bengal/bangladeshi-barge-sinks-in-hooghly/cid/1753225> Accessed 14 Mar 2020. Amount of fly ash is from the information received by Manthan Adhyayan Kendra using Right to Information Act, 2005.

63 https://m.timesofindia.com/city/kolkata/west-bengal-fly-ash-of-capsized-barge-may-hit-river-biodiversity/amp_articleshow/74623784.cms Accessed 15 March 2020

64 See the Tracker maintained by Manthan, based on information from RTI applications, local communities and news report. At, <https://www.manthan-india.org/work-theme/inland-waterways/maps-trackers-national-waterways-in-india/>

National Waterway -1 consists of flyash.⁶⁵

Another worrying figure emerging out of the cargo movement on National Waterway -3 in Kerala is the movement of chemicals, with 92% of the cargo on the NW-3 in year 2018-19 being chemicals, and 7% being fertilisers⁶⁶.

Land Acquisition and Displacement

Land is needed for many of the related infrastructure facilities like terminals, warehouses, ship repair facilities etc. This can result in direct displacement of people. Indirect or economic displacement happens when people lose their livelihoods, like fishers being asked not to fish in certain areas, or when riverbed cultivators lose the right or opportunity for cultivation as the waterways prevent such cultivation.



Figure 10: Land acquired for construction of freight village in Chandauli district, Varanasi.
Photo: Vikas Kumar

The multimodal terminal at Varanasi is being developed in two Phases on 166.75 acres of land in Rahulpur village. Phase-I of the terminal was inaugurated in November 2018⁶⁷. A freight village adjoining the multi-modal terminal, to be developed by IWAI, is also proposed on 100 acres of land. As per a Ministry of Shipping release, "The IWAI will own the land of the freight village, but part of it

65 Statistics of Inland Water Transport 2018-19, Ministry of Shipping, Page xii

66 Statistics of Inland Water Transport 2018-19, Ministry of Shipping, Page xxiv

67 Project Status Report for Jal Marg Vikas Project, status as on 31.01.2020 <https://iwai.nic.in/showfile.php?lid=793> Accessed 20 March 2020

will be leased to logistics companies and waterways related manufacturing and trading companies at prices to be fixed as per market conditions and on terms and conditions to be framed, to set up their own business”⁶⁸. Land acquisition for phase-II of the multi-modal terminal and the adjoining freight village is ongoing in village Milkipur, Tahirpur in Chandauli district and Rasulaganj in Mirzapur district.

The local population is protesting against the land acquisition being done for the phase-II and the adjoining freight village proposed with this terminal. Most of the population engages in agricultural activities, fishing and small boat/ferry operations. The local population is protesting as they have not been provided with adequate compensation as per the circle rate, nor is the compensation based on the four times the rate of the land as promised to them while the land was being surveyed. Moreover, they said that compensation for land is being provided at 2016 rate and not at the current rate while the land is being bought now. Most of the villagers are dalit, belonging to Scheduled Caste. They said they are tired of the exploitation at the hands of district administrators who have been forcing them to sell their land. No jobs have been offered to them, even though they asked for jobs in the terminal when the land was being surveyed and, in a meeting held in the village. The villagers from Milkipur told a team member of Manthan during a visit in February 2020 that they have been living here for a long time, their livelihood and aspirations are associated with the land. There is very good connectivity to Mirzapur, Benaras, once they are displaced from here, where will they go? How would they get the connectivity on which they depend on for the facilities such as schools, colleges, hospitals, banks, etc. It will affect their and their children’s social wellbeing and their future.

Similarly, the Sahibganj multi-modal terminal is being developed over 193 acres of land⁶⁹. In a statement⁷⁰ released on the eve of the inauguration by the Prime Minister on 12th Sept 2019, several organisations, including groups working with the people affected by the terminal pointed out that

“Around 485 families have been identified as project affected families; resettlement of many families is yet to be done. The people of Sahibganj have lost their land and are on the edge of losing their livelihood due to the multi-modal terminal. They are distressed with the process of resettlement and compensation, discrepancies in the

68 PIB Release, Ministry of Shipping 06.12.2019 <https://pib.gov.in/newsite/PrintRelease.aspx?relid=186148>

69 Project Status Report for Jal Marg Vikas Project, status as on 31.01.2020 <https://iwai.nic.in/showfile.php?lid=793> Accessed 20 March 2020

70 <https://www.manthan-india.org/wp-content/uploads/2019/09/Sahibganj-Multi-Modal-Terminal-web-site.pdf>

resettlement surveys, and have contacted the authorities to address their issues but to no avail. Further, a freight village (industrial cum logistic park and integrated vessel repair and maintenance complex) is also proposed on 335 acres of land in contiguity with the terminal which means more displacement is being lined up.”

It is important to note that the IWAI has plans to privatise both the terminals under a PPP mode. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or the Land Acquisition Act 2013 clearly specifies that when land is acquired for PPP projects, then the consent of 70% of the land-holders is needed. Yet, according to the local people, no such process has been undertaken at either of the terminals. Hence, handing it over to the PPP players would be a violation of the 2013 Land Acquisition Act. Indeed, the people affected by the Sahibganj terminal have also demanded, in the same statement mentioned above, that any further acquisition must include the formal process of seeking consent of the land-holders.

Circumventing Environmental Clearance Process

Unfortunately, in spite such serious environmental and social impacts, waterways are not being subjected any legally binding statutory process of environmental regulation. The EIA Notification 2006 governs the environmental clearance process and its Schedule defines which activities require prior environmental clearance. While “Waterways” are not listed in the Schedule, dredging and ports are. Accordingly, several waterways (for e.g., Goa waterways) initiated the process of applying for the environmental clearance under this Notification. But when the question of the Ganga waterway came, the Ministry of Shipping brought out a specious reasoning that it involved only maintenance dredging and that this does not need environmental clearance under the Notification. Ministry of Environment, Forests and Climate Change (MoEFCC)’s own stand was clear and unambiguous, that the dredging in the Ganga waterway needed to have prior environmental clearance. Further, the MoEFCC also asked its own “Expert Committee for Streamlining Clearance Procedures Including Examination and Recommendation on Various Technical Issues like Review of Project/Activities for its Inclusion Under EIA Notification 2006...” to give its recommendation on it. The Committee, headed by Dr. Wate, gave two recommendations; one, that JMVP (Ganga waterway) needs to take an EC, and that it cannot be exempted even if the dredging is classified as maintenance dredging; and second, MoEFCC should amend EIA Notification to remove ambiguity and must clearly include waterways in the EIA Notification. Yet, the Ministry of Shipping ultimately pressurised the MoEFCC to grant this exemption, which MoEFCC did via its OM of 21 Dec 2017⁷¹.

A result is that on several waterways, the IWAI is now going ahead with its work like dredging without any environmental clearance with full impunity. Moreover, other waterway stretches which have applied for environmental clearance - no National Waterway has applied for environmental clearance for the complete project, only stretch wise EC applications have been made – are now claiming exemption.

For example, IWAI has asked for exemption⁷² from environmental clearance for NW-5 for which the EC process was well under way with TORs being granted to it. In the said letter, IWAI has asked for exemption from EC for all waterways!

71 This paragraph is based on extensive information and documents obtained by Manthan under the RTI Act. For a detailed account and analysis, please see Shripad Dharmadhikary and Avli Verma. “Circumventing Environmental Regulations.” *Economic & Political Weekly* 54, no. 8 (2019): 13. http://www.manthan-india.org/wp-content/uploads/2019/03/CM_LIV_8_230219_Shripad_Dharmadhikary.pdf

72 Inland Waterways Authority of India letter dated 27.11.2018 addressed to the Member Secretary (Infra-2), Ministry of Environment, Forest and Climate Change (F.No. IWAI/NW-5/7A/2017-18(Vol-)/109

Moreover, because the MoEFCC O.M. of 21st Dec 2017 grants exemption from EC for waterways with maintenance dredging, the proposal of NW-5 has changed capital dredging to maintenance dredging on paper in its application.

IWAI has been claiming that even though it is not following the statutory EC process, it is still carrying out environmental impact assessments (EIAs) for the waterways (for example, for the NW-1 where EIAs are being done as per the World Bank policy requirement). But there is a big difference between an EIA carried out by IWAI outside the legal framework of the EIA Notification 2006 and an EIA within this EC framework. In the latter, the entire process of EIA is overseen by an independent committee of experts (the Expert Appraisal Committee, EAC, of MoEFCC) which sets the ToRs for the EIA, which examines the EIA and then recommends the environmental clearance. For an EIA outside this process, the ToR is set by IWAI – the project promotor – and there is no independent scrutiny of the EIA. This is a clear case of conflict of interest. Most important, when an EC is given under the EIA Notification, the Environmental Management Plan (EMP) and the conditions it sets are legally binding, subjected to regular monitoring and compliance reporting and the project promotor can be held accountable even by ordinary citizens through judicial remedies. There is no binding and accountability on the conditions suggested by an EIA outside this framework and IWAI cannot be held accountable to their compliance. Compliance would be subject to benevolence of the IWAI – again, a clear conflict of interest.

Case in the NGT

In 2015, a case was filed in the National Green Tribunal (NGT) with a prayer that the Ganga waterway be asked to seek prior environmental clearance⁷³. After three years of hearing the matter, the NGT disposed of the case on 1 Nov 2018 with an order that MoEFCC will consult experts and submit its stand in three months on whether inland waterways need an environmental clearance or not. Another long-drawn process that included an appeal filed in the Supreme Court has resulted in the matter being taken up again by the NGT in a fresh Application. On 10 Jan 2020, the NGT ordered the MoEF to set up an expert committee to look at the issue of EC for inland waterways raised in the previous matter, and some other issues, and submit a report in three months, that is, 10 April 2020. The matter was to be heard again on 27th April 2020. Yet, even at the time of writing this report (Feb 2021), the MoEFCC has not submitted any such report to the NGT nor has the NGT heard the matter and MoEFCC has evaded clarifying its stand in the judicial forum.

73 Bharat Jhunjhunwala & Ors. Vs. Inland Waterways Authority of India & Ors O.A. 487 of 2015, Principal Bench, NGT.

Draft EIA Notification 2020

It would be relevant to note here that the MoEFCC has proposed replacing the existing EIA Notification 2006 with a new notification, whose draft had been put up for public comments by MoEFCC in March 2020, and is currently under process with the examination of many lakhs of comments/objections received. This Draft explicitly provides that “all projects in respect of inland waterways” will not need an environmental clearance but will be able to proceed with just an “Environmental Permission”, which does not need an EIA, or a public hearing or scrutiny by the EAC, and is to be given in just 15 days⁷⁴.

74 For detailed comments on the waterways related provisions of the Draft EIA Notification 2020, please see <https://www.manthan-india.org/wp-content/uploads/2020/04/Manthan-Comments-on-Draft-EIA2020-PART-1-of-3-Waterways-website.pdf>

Seaplane Services, Luxury Cruises

Right from the time it was launched, seaplane services and luxury river cruises have been a part of the vision of the Government for the inland waterways program. These two elements of the program are being pushed by the Government in a big way.

Seaplane Services

In addition to the waterways related developmental activities, sea planes services are also proposed on the waterbodies. In February 2019⁷⁵, six locations of water aerodromes were announced for starting seaplane and helicopter services. In June 2020, the number of routes for the seaplane services rose to 16⁷⁶. According to a PIB release⁷⁷ by Ministry of Shipping, the proposed Origin-Destination pairs under Hub and Spoke model include Sabarmati and Sardar Sarovar- Statue of Unity; various islands of Andaman & Nicobar and Lakshadweep, Guwahati Riverfront & Umranso Reservoir in Assam; Yamuna Riverfront / Delhi (as Hub) to Ayodhya, Tehri, Srinagar(Uttarakhand), Chandigarh and many other tourist places of Punjab & HP; Mumbai (as Hub) to Shirdi, Lonavala, Ganpatipule; Surat (as Hub) to Dwarka, Mandvi & Kandla; Khindsi Dam, Nagpur & Erai Dam, Chandrapur (in Maharashtra) and/or any other Hub & Spoke suggested by the Operator. It was directed that the IWA will manage the Project of Seaplane in Inland Waterways and SDCL will manage the Projects of seaplane in Coastal Areas.

The Prime Minister of India inaugurated the water aerodrome at Kevadia and the Sea plane service connecting the Statue of Unity and Sabarmati Riverfront in Ahmedabad on 31st October 2020⁷⁸. While this is seen as a successful launch and lauded for jetties being constructed in record time, the truth remains that environmental clearance is still pending for these water aerodrome projects at Statue of Unity and Sabarmati Riverfront. The operationalisation of the project even

75 MoPSW Press Release, Sea plane Services 7th February 2019 <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1563327>

76 MoPSW Press Release, Shri Mansukh Mandaviya reviews seaplane operation projects 16 Seaplane projects will be the reality soon, 23rd June 2020 <https://pib.gov.in/PressReleasePage.aspx?PRID=1633667>

77 MoSPW, Ministry of Ports, Shipping and Waterways is kicking off ambitious Project of Sagarmala Seaplane Services (SSPS) with potential airline operators A Game- changer seaplanes services will facilitate faster and hassle-free travel across the country, 4th January 2021, <https://pib.gov.in/PressReleaseframePage.aspx?PRID=1685966>

78 MoPSW Press Release, Prime Minister inaugurates to & fro Sea-plane Service between Kevadia and Sabarmati Riverfront in Ahmedabad 31st October 2020 <https://pib.gov.in/PressReleasePage.aspx?PRID=1669048>

before the environment clearance is obtained is a mockery of the law.



Figure 11: Proposed locations for Sagarmala Seaplane Service. Source: PIB release by Ministry of Ports, Shipping and Waterways dated 4th January 2021.

While the EIA Notification 2006 does not include water aerodrome projects in the list of activities requiring prior environmental clearance, the Expert Appraisal Committee at the central level appraised these projects as Category A projects which would have similar type of impacts as of normal airport. The reasoning they gave was⁷⁹:

“Considering the Water Aerodrome are just emerging in the country as a new mode of transport involving sea/river fronts and its likely impacts on water, air and aquatic biodiversity including flora and fauna, the EAC has taken a view to follow the EC process as per category A of item 7(a) ‘Air Ports’ of the Schedule to the EIA Notification, 2006.”

The TORs given for these projects have specific conditions which mandate that the EIA include several prior studies/plans. These include studies on deplane waste, impact of noise on sensitive environment, on site disaster management plan,

79 Terms of Reference Letter by Ministry of Environment, Forest and Climate Change dated 13.05.2020 for Water Aerodrome Statue of Unity and Sardar Sarovar Dam <http://environmentclearance.nic.in/DownloadPfdFile.aspx?FileName=icOpZzCkHv31Yslw4TIXHuYTUbh4cULrsd7/rmUesi2+4qtPF36KtM0INSziBSJ40CkHJt45FLuVMrz-ThY1ezqMiA/2ObLliQff+TIYYw+GPCJ2kptn12gMotioiX9lh/mq+Rx3LC1nKvONpcf+Cw==&FilePath=93Z2Bm8L-WEXfg+HAIQix2fE2t8z/pgnoBhDIYdZCxUI4D0y0DyH4SbeEYqwwEmb63j4fms9Murl/YnHqFqoQ==>

impact of aircraft emissions on different scenarios, details of fuel tank farm and its risk assessment, etc.

At present, eight water aerodrome projects (including water aerodrome at Statue of Unity and Sabarmati Riverfront) are under the environmental clearance process. These eight projects have been granted Terms of Reference for the preparation of Environmental Impact Assessment (EIA) Report. In all of these TORs, public hearing has been made mandatory and issues raised in the public hearing and commitment made by the project proponent are to be included in the final EIA report. It is not clear whether these applications will now complete the due process for the environmental clearances or whether the seaplane projects will just end up starting without EC.

River Cruises on National Inland Waterways

According to a PIB release by Ministry of Shipping in 2013⁸⁰, three years before the National Waterways Act, 2016, river cruises were operational in NW-1 (Ganga Waterway), NW-2 (Brahmaputra Waterway), and NW-3 (Kollam Kottapuram stretch of West Coast Canal, and Udyogmandal and Champakara Canals in Kerala).

Now there are major plans to boost cruise tourism on the waterways. The Ministry of Shipping has tied up with the Ministry of Tourism to boost cruise tourism through the inland waterways.⁸¹ In August 2020, the Government reduced the port charges for cruises by 60-70%, which, according to Shri Mansukh Mandaviya, Union Minister of State for Shipping (I/C), was part of measures to put "India on the map of global cruise market, both for ocean & river cruises".⁸²

A memorandum of Understanding (MoU) was signed on 08.04.2017 and 25.10.2018 for river cruise vessels to ply on the routes on NW-1 (Ganga), Indo Bangladesh Protocol routes (IBP) via NW-97 (Sundarbans Waterways) to NW-2 (Brahmaputra river), and on NW-16 (Barak river). Bilateral cruise operations commenced in March – April 2018. Four river cruise operations have successfully taken place till now in Kolkata-Dhaka -Guwahati stretch through IBP routes⁸³.

In December 2020, it was announced that the first-ever luxury Cruise service – 'Ramayan Cruise Tour' will be launched on the Saryu river (Ghagra/National

80 PIB release, Ministry of Shipping, 'Development of Inland Waterways in the country,' 6th December 2013 <https://pib.gov.in/newsite/PrintRelease.aspx?relid=101096>

81 MoPSW PIB Release 7 Jun 2019 <https://pib.gov.in/PressReleasePage.aspx?PRID=1573650>

82 <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1645774>

83 <http://loksabhaph.nic.in/Questions/QResult15.aspx?qref=7991&Isno=17>

Lok Sabha Starred question 152, answered on 28.11.2019)

Waterways-40) in Ayodhya, Uttar Pradesh⁸⁴. Stakeholders' conference was also organised by the IWAI in January 2021 to promote cruise tourism in the Chambal river in Kota, Rajasthan⁸⁵. There are plans to bring a second luxury cruise to Varanasi⁸⁶.

The major thrust being given to cruise operations can be gauged by the fact that the Maritime India Vision 2030 released on 2 March 2021 by the Prime Minister includes "Become a Global Hub for Cruise Tourism" as one of the key elements of the Vision, and proposes increasing operational waterways for cruise to more than 10 with 4 additional waterways prioritised for river cruise tourism.⁸⁷

84 PIB release, Ministry of Shipping, 'Ramayan Cruise Service will be launched soon on the river Saryu in Ayodhya, Uttar Pradesh,' 1st December 2020 <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1677372>

85 https://twitter.com/IWAI_ShipMin/status/1346756406825811969

86 <https://timesofindia.indiatimes.com/city/varanasi/second-luxurious-cruise-boat-to-reach-kashi-on-jan-30/articleshow/80515953.cms>

87 Maritime India Vision 2030 released at the Maritime India Summit 2021 by the Prime Minister, on 3 March 2021 <https://www.maritimeindiasummit.in/pdf/maritime-india-vision-2030.pdf>

Catering to Needs of Small Users, Local Communities

One of the important criticisms of inland waterways has been that they have been designed mainly to cater to large corporate users and high-end tourists, ignoring the needs of the small users, local communities, fisher people, or are being developed even at the cost of these stakeholders. This remains largely true, as the major thrust (and finances) continues to be on large vessels, big operators, bulk commercial cargo, and more recently also on seaplane services and luxury cruises.

However, there is some welcome indication that IWAI is considering the needs of these small users, farmers and local communities even though concerns remain that the impact on fisher people is not being considered and addressed.

One such development is the “Arth Ganga” proposal, which was conceptualised in the first meeting of the National Ganga Council in Dec 2019, by the Prime Minister. According to the PMO Press Release of May 2020, the Arth Ganga project

“envisages **to re-engineer the JMVP** [Jal Marg Vikas Project or the Ganga Waterway] by involving the local community with a focus on economic activities in and around the Ganga river... Small jetties along the Ganga to boost the economic activities at the community level would be set up as part of the “Project Arth Ganga””.⁸⁸
(Emphasis added).

It may be pointed out that these types of initiatives are completely absent in the DPR of the NW-1 (Ganga Waterway).

These “community jetties” on the Ganga will meet the needs of farmers, traders etc. for agricultural produce⁸⁹ and for perishable goods⁹⁰ like marigold, banana and pan, vegetables, etc. (See Figure 12) While this is a welcome step, measures need to be taken to ensure its success, as perishable goods particularly need speedy and dependable modes of transport, while inland water transport continues to be dogged by unreliability, as experience till date, some of it presented in this report earlier, shows. An important way to ensure that this will succeed is to design the waterways with smaller vessels in mind; this is also logical as the needs of the community will not require barges of several hundred or thousand tons. Smaller vessels will need lesser depths and will be able to move more easily, providing more

88 Press Release from PMO, 15 May 2020 <https://pib.gov.in/PressReleasePage.aspx?PRID=1624562>

89 Press Release of Ministry of Shipping 13 Feb 2020 <https://pib.gov.in/Pressreleaseshare.aspx-?PRID=1603107> Accessed 15 Feb 2020

90 <http://www.univarta.com/news/india/story/1886497.html> Accessed 15 Feb 2020

dependable transport. It is not clear if these jetties are already deployed or are still under planning.



Figure 12: Locations of Small Floating Jetties for Agricultural produce to be deployed by IWAI

There are reports that Goa has moved 30 proposals with the IWAI and sought Rs 50 crores to build small jetties and start passenger ferries⁹¹.

Another important move that is likely to benefit smaller and local users is the plan to expand ferry, Ro-Ro and Ro Pax services or introduce new ones. This is planned in several waterways including NW-2 (Brahmaputra), NW-3 (Kerala), NW-4 and of course on NW-1 (Ganga). In fact, on the NW-1, the Ro Ro traffic is responsible for the 32% of the total cargo moved in 2019-20, up from 15% in 2018-19. The Ro-Ro movement is primarily taking place at multiple locations between Kolkata and Rajmahal (2.2 million tons out of total 2.88 million tons) and between Sahibganj (Jharkhand) and Manihari (Bihar) for transportation of stone chips (0.7 MT). Similarly, approximately 18.5 million passengers were ferried via LCT/Ro-Ro and passenger launches between various points located on the stretch between Kolkata and Rajmahal⁹². Arth Ganga has plans for 10 new Ro Ro terminal pairs in four Ganga belt states⁹³.

All these are desirable steps, but at this point, are far from a “re-engineering” of the waterways program. Rather, they appear to be only add-ons to the main focus

91 <https://timesofindia.indiatimes.com/city/goa/ports-dept-seeks-rs-50-crore-central-funds-for-small-jetties-across-state/articleshow/74250361.cms> Accessed 20 march 2020

92 Annual Report on Traffic on National Waterways: FY2019-20

93 Press Release from PMO, 15 May 2020 <https://pib.gov.in/PressReleasePage.aspx?PRID=1624562>

which still remains on large vessels and big commercial and corporate users. For a re-engineering, it is important that needs of smaller users and local communities become the focus of the development of waterways, else one would see a contradiction in intent and actual practice. Ultimately, the question is whether IWA will prioritise the needs of and programs targeted at benefitting smaller users, local communities, fisher people etc. when pitted against the interests of the rich and powerful large corporate users. This is illustrated with the example of the plans to deploy cruise vessels in Varanasi (described in earlier sections) where the interests of small boats people are being sacrificed.

Further, it will be important to provide the same level of navigational aid backup to smaller vessels, same levels of safety regulations and support as planned for the larger vessels. Also, full care would have to be taken that these smaller vessels and the planned RoRo, ferry, cross-ferry, passenger services do not impact fisher people's livelihoods. It would be important to integrate seamlessly fisherpeople's needs and movements in these plans so that they not only are not harmed by these developments but also positively benefit.

As this seems to be only a small part of the IWA's effort, we will continue to monitor it and hope that IWA shifts its priorities to such kinds of efforts.

In conclusion

Looking at the last five years of development of national inland waterways, we see that the program, while ongoing since many years, was launched with new vigour in 2016 with the passage of the National Inland Waterways Act 2016. Right from its launch, the focus of the program has been on the bigger corporate and commercial users, and high-end tourists, with a push for bigger vessels, container-carriers, bulk goods movement and seaplanes and cruises.

The launch of the program was accompanied by many claims, promises and grand plans – most of which clearly are nothing but a hype. Claims of benefits from these waterways, and that they are cheaper than other means of transport are exaggerated. Promises of benefits to be delivered were made without assessing the basis for the same. Actual funds allotted were miniscule compared to allocations that were talked about, and also compared to funds needed for the proposed plans.

All this is reflected in the physical progress as well the growth in the goods transported by inland waterways, which has remained far more modest. Indeed, much of the traffic is still seen in the tidal and coastal reaches of rivers, where depths are readily available or easier and cheaper to maintain. Maintaining higher depth in upstream reaches looks more difficult and involves higher cost, leading to questions on the viability of many of the waterways. The absence of much traffic at the Varanasi and Sahibganj terminals reinforces the questions of financial advantage of waterways, their viability and difficult of the navigation in these reaches. The fact that many of the 106 waterways proposed in the Act are now found to be unviable substantiates this apprehension. Reliability of these waterways is also under question given the regularity with which ships have been reported to be stuck mid-way their journey.

Even as questions arise about the viability of these waterways, there are severe social and environmental impacts that are taking place. Most impacted are the fisher people, who are losing their livelihoods due a variety of impacts of the construction and operation of waterways. Also, it is clear that the development of the waterways with a focus on large commercial and corporate users and high end tourists is displacing smaller communities, fishers, boatpeople from their livelihoods, and in some cases physically displacing people due to related infrastructure like terminals etc. In spite of these impacts, there is little seen by way of addressing these impacts, in terms of avoiding, mitigating or compensating them.

In fact, through pressure of the Ministry of Shipping, inland waterways have managed to extract exemption from the legally binding statutory environmental

clearance process, in a manner that is untenable in law. Thus, in spite of massive impacts, work on inland waterways is proceeding without any legally binding environmental scrutiny and regulation.

The silver lining to this process is that there are indications that the authorities are realising that it is important for the waterways to contribute in meeting needs of smaller users, local communities. However, these efforts are still very limited and the need is actually to centre stage them and make them the focus of the development of waterways, integrating into these efforts the needs of communities like fishers and boats people that have been traditionally dependent on the rivers, as well as ensuring that development of waterways does not harm the river ecology and environment.

It is only then that we will see the real benefits from the development of water navigation and transport which appear far right now.

The Government of India in April 2016 launched the ambitious National Inland Waterways program that had plans to convert 111 rivers or river stretches into large commercial waterways. These waterways represent possibly the largest intervention in and disruption of our rivers, second only to large dams. Since 2016, Manthan Adhyayan Kendra has initiated a program of detailed study of these waterways, their implementation and their impacts. With this report, Manthan Adhyayan Kendra presents a review of the progress made and an assessment of whether the claims and promises have been fulfilled, and what have been the impacts of the program five years after its launch.



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