

Possibility of Inland Water-Ways for Growth of Uttar Pradesh

Paper Submission: 14/08/2021, Date of Acceptance: 24/08/2021, Date of Publication: 25/08/2021

Abstract

The commercial history of India gives a glorious account of growth navigation on Inland Water-Ways. The location of a large number of towns & waterways, which were also centers of trade and commerce much before railways indicate the value of this mode in the past. Length of waterways along with its navigable length is an indicator of Inland Water potential of a state. The National Water-Ways Act 2016 has declared that there are one hundred eleven Inland Water-Ways as National Water-Ways (NWS) in the country to promote shipping and navigation on them. The total length of NWS is 20275 Km spread across 24 states in the Country, out of which 425 Km in U.P.

The purpose of the study is the possibility of Inland Water-Way transportation and its growth in U.P., because U.P. is rich for Water-Ways. There are so many rivers such as Gomti, Rapti, Ghagra, Ganga, Sai, Tonir, Yamur and so many different Canals which are based on these rivers. As per studies done in some countries Inland Water-Ways Transportation has been known as the most cost effective and fuel efficient mode of transportation. It will attract the attention of state government as well as the central government.

Keywords: Gallon, IWAI, IWT, NWS.

Introduction

The Inland Water Transport System, like any other form of transportation, caters to the movement of both freight traffic and passenger. Augmenting the capacity of the road or rail system requires huge investment whereas the Waterways being the free gift of nature and made navigable with minimum investment.

The cost of transportation by water is 40% cheaper as compared to road system. The inherent advantage of this system lies in its capacity to move bulk cargo at cheaper cost. Hence a major thrust needs to be given to the sustainable means of transport. It will also provide more environmentally friendly competition for road and rail transport. Freight transportation by waterways is highly under utilized in India as compared to developing countries.

Uttar Pradesh is gifted with a variety of navigable waterways comprising river system, canals, backwaters. The total length of Uttar Pradesh Waterways is 6444 out of which 960 Km of Gomti, 778 Km of Rapti, 116 Km of Ghaghra, 2345 Km of Ganga, 776 Km of Sai and 485 Km of Tons. Currently Ganga has 425 Km of navigable length beside it the main Upper Ganga Canal length is 342 Km, the lower Ganga Canal is about 6000 Km of length. Sharda Canal is 1362 Km of length, Eastern Yamuna Canal covers a distance of 1450 Km length. Thus U.P. has about 3091 thousand hectares under canal irrigation which is 30.91% of the total Canal irrigation area of the country.

So by enhancing the efficiency and sustainability of Inland water transport Uttar Pradesh can increase additional ways for the state economy.

Objective of the Study

The main objective of the study is to analyze-

1. The study will provide opinion on commercial viability that investment is fruitful or not.
2. To understand that Inland Waterways are able to decrease pollution in the state.
3. To help in understanding Inland Waterways benefits for tourism in U.P.
4. To examine the Inland Water Transportation Impact on G.D.P. of Uttar Pradesh.
5. To Examine the use of navigable water for commercial transportation.

Ashutosh Mishra
Assistant Professor
Dept of Economics,
National P.G.
College, Bhongaon,
Mainpuri, U.P., India

Review of Literature

1. Inland Water Transport and port in Horizon Europe (2019) presenting vision, strategy, time path and expected benefits of Inland Waterways Transport and port. People and goods reach their destination in a reliable, healthy and safe way. 100% renewable energy and no harmful emission. People and businesses can be protected against floods and drought.
2. Narayan Rangraj and G. Raghuram (Viability of Inland Water Transportation in India) has said potential of IWT is sufficient to justify a national body such as IWAI with a sharp role in nurturing the sector but its substance need to be judged contextually for each waterways.
3. Statistics of Inland Water Transportation (2017-18) gives criteria for declaration of National Waterways.
4. It should posses capability of navigation by mechanically propelled vessels of minimum 300 tons capacity (45mx8mx1.2m).
5. It should have a fairway of minimum 40m wide channels with 1.4m depth in care of rivers and minimum 30m wide channel with 1.8m depth in case of canals.
6. RITE Report 2014 - Says on an international standard the operating cost of IWT is 1 cent as compared to 2.5 cent by rail and 5.3 cent by road. It provides higher fuel efficient as compared to either rail or road. 3.8 liters (1 gallon) of fuel transport one tones of freight through 827 Km by a barge compared to 325 Km by train and 95 Km by truck.
7. NITI Aayog Recommendation for 2017-2020 - NITI Aayog recommenders streamlined the regulatory structure and bringing an our arching body to observe Inland Water Transport such as IWAI to more consistency in the rules and strategy of the sector.

Hypothesis

1. Inland Water Transportation is more cheaper then road and rail transportation.
2. Navigation feasibility for Inland Water Transportation.
3. In the Proposed area this type of Inland Water Transportation is feasible.
4. Inland Water Transport will not create as much as pollution to rail and ro transportation

Data Sources and methodology

The present study is mainly based on secondary data. Which is taken from different books, reports, newspapers etc.

Research Design and Data Analysis - In Water based transportation generally fuel cost are low and environment pollution is lower then in transport by road, rail and air. The Water-Ways is generally naturally available or can be prepared like Suez Canal which has to be trained, maintained and upgraded. Water based transportation is especially effective when the source and destination are at water front location.

Navigable Waterways & Infrastructure - Length of Waterways along with its navigable length is an indicator of inland water potential of a state, Details of State-wise navigable waterways in India during 2019-20 are given under in table -

Different State IWT Length

S. No.	State	Total Length of the Rivers/ Canals/ Lakes in State (Km.)	Navigable Length (Km.)	Percentage of Navigable Length to Total Length
1	Andhra Pradesh	3762	1160	30.83
2	Assam	4716	1938	41.09
3	Bihar **	3763	1391	36.97
4	Coos *	274	249	90.88
5	Chhattisgarh	2902	1215	41.87
6	Karnataka	2988.61	1613.24	53.98
7	Kerala	631	461.50	73.14
8	Maharashtra	2425	155	6.41
9	Odisha	276	276	100.00
10	Nagaland	790	155	19.62
11	Mizoram	211.1	14	6.63
12	Tamil Nadu	6444	425	6.60
13	Uttar Pradesh **	4741	4593	96.88
14	West Bengal	33923.71	15045.74	44.35
	Total			

Source : State Governments
 Note :
 * Nil data reported for the year 2019-20
 ** Pertains to 2016-17 as data was not received from these States for 2016-17 onwards.

It is observed that the maximum level length of waterways in Uttar Pradesh is 6444 and Navigable length is only 425 Km, which is only 6.60% of total length. Total length of 171 rivers in these 13 states is 33923.71 Km which is 44.35% of navigable length.

The Ganga-Bhagirathi-Hooghly river system between Haldia (Sagar) and Allahabad (1620 Km) was declared as National Waterways (NWs) in 1986. Since then IWAI is carrying out various development works

on the waterways for improvement of its navigability development and maintenance of other infrastructure such as navigation aids and terminal facilities. During 2019-20 the important works carried out for development and maintenance of fair water-ways, navigational aids and terminal facilities on NW-1 for maintenance of the following least available depth (LAD).

1. Haldia - Farakka Stretch - (560 Km) - 2.6m to 3.0m.
2. Farakka - Badh Stretch - (400 Km) - 2.1m to 2.5m.
3. Barh - Gajipur Stretch - (290 Km) - 1.6m to 2.0m.
4. Ghazipur - Allahabad stretch - (370 Km) - 1.1m to 1.5m.

The volume of freight movement on National Waterways-1 was 91.12 lakh tonnes in 2019-20 against 73.49 lakh tones in 2018-19 reflecting an increase of 23.99%. The increase in traffic has been due to steady increase in Indo - Bangladesh protocol route traffic. The reason behind it was to increase in fly ash consumption by cement plants in Bangladesh and general increase in traffic on NW-1. IWT experience across the world is varied and offer interesting comparison. In Bangladesh about 35% of freight movement is by IWT. In Thailand IWT is next to road share of freight carried (about 20 million tones). In Europe IWT is estimated to carry about 70% freight traffic in member state of European Union. Inland Water Transportation in India has only 1% share, China 8.7%, U.S.A. 8.3% and of Europe 7%. In 2019, the volume of goods transported on European Inland Waterways was 523 million tones an increase of 2.9% compared to the previous year. In China navigable Inland Waterways is more than 1,00,000.00 Km and there are a large number of Inland Port facilities. IWT accounts for almost 10% of the freight tonnage, two third of it is being carried on the Yangtze. China is focused on improving Inland Waterways. Lue Ping the director of China Research Institute of Comprehensive Transportation National Development and Reform Commission claims that inner water ports would be next big business opportunity in China's port infrastructure. He believes that there are good opportunity in the inner port infrastructure sector.

Inter - Modal Costs

Inter modal comparative cost plays an important role in making choice for selecting a particular mode of transport between a specified pair of point. On the one hand roads are comparatively costlier mode of transportation when vehicle operating costs alone are compared, but it has an edge over other modes i.e. rail and IWT, as road transport offers door to door service, reducing local terminal costs. Further, road has an added advantage over other modes on account of lower empty return ratio on long destinations. Similarly rail has its own operational advantage of carrying bulk cargo on long destinations. Although IWT seems to be the cheapest mode of transport as far as operational costs are concerned. It fails to attract traffic when local or terminal costs are involved. On recommendation of the past studies it was concluded that commodity wise level of diversion on proposed IWT service are strongly guided by the terminal cost that reduces the water margin of benefits to very large extent. In this background a large number of O-D pairs which involve short distance have not been considered as potential traffic for IWT. To encourage and promote dependence on IWT services tax exemption can be considered. Comparative Intermodal costs are one of the visible decision making tools for the users. Intermodal comparative cost given in "Report of the inter-Ministerial Committee to identify New Area of Private Investment in the Inland Waterways Transport (IWT) Sector" Planning Commission, (Transport Division), 30th November 2012, Overall advantage of IWT vis a vis dependence on IWT service tax exception has been considered. Comparative inter modal cost Rev/TKM considered are given as under -

Table Inter Modal Comparative Operations Costs Rs/TKM

Mode	VOC/Freight (Rs/TKM)	Taxes	Total Rs/TKM
Railways	1.36	3.71%	1.41
Highways	2.50	3.09%	2.58

IWT	1.06	Nil	1.06
Source : Railways- Ministry of Railways, Road-TTSS, IWT-IWAI			
*Service Tax on rail transport is 12.36% and abatement is 70%.			
**Service Tax on Road Transport is 12.36% and abatement is 75%.			

Conclusion

In U.P. many expressways exist at present and work on many more in progress for future growth. It requires a lot of agricultural land. Farmers protest for their right and for land which give them food and fulfill their every requirements. If land will consume in expressways then it will create a problem for future population. What will they eat and what will they drink ? Government has enough canals and river length which can be used for commercial transportation. These canals can be linked with expressways. Combination of rivers, canals and expressways will decrease the future requirement of expressways. If government plan to construct new expressways then government should consider canal strips ? Thus compensation expenditure of government will decrease and it will also decrease cost of the project As a result more agricultural land will intact with farmers. Thus Inland Waterways Transportation will make an impact on economic as well as social status of U.P., If this project implemented then new ways of employment will open, because it will provide cheapest alternative of transportation. It will also be beneficial for those people who are residing near these waterways. Small industries will take place and those persons living much below the poverty line in nearby rural and backward areas will get opportunity by additional productive employment, improvement of their skills and improve their standard of living. Agriculture crops of farmers can be easily transported to big cities. It will be a major break through in doubling their income, which is the dream of The Central Government of India.

Suggestions for the future Study

Because the population is rising day by day, so demand for transportation will increase in future. Following suggestions are given in this regard -

1. IWT can release the burden from road and rail transportation, so government should consider it.
2. IWT will also help in reducing carbon emission because it is more environmentally friendly means of transportation.
3. Inland Water is free gift of nature. By doing some changes it can be used for IWT.
4. Maintenance cost of IWT is less in comparison to rail and road transportation.
5. IWT will require nominal agricultural land in comparison to expressways and rail freight corridors. So government should consider about it on priority basis.

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