

A Study on Scope for Inland Waterways Public Transportation System in Pune City

Mr.Abhishek Hemant Umap, Mr.Rohit Narayan Kanade, Mr.Prajwal Gajanan Mane, Mr.Arjun Shrikrishna Jagtap, Mr.Prashant.L.Jogdand.

Department of Civil Engineering, G.H.Raisoni College of Engineering & Management, Pune.

Abstract: Pune city houses a lot of working population thus making the city the host of chaotic traffic problems & pollution issues. These problems see a large spike during office hours. These problems can be handled by an totally alternate means of transport. Pune is blessed to have two rivers namely Mula and Mutha flowing right through the centre of the city. These Rivers start from one corner of the city and end at the other corner which is really beneficial for this transportation system. Use of these rivers can be used to sustain a system of public transportation with the help of water Taxies, Ferries and Boats. The Metro, Electric Buses, Electric Rickshaws can provide relief in some amount but it won't be sufficient in coming years. This city requires as many solutions as possible for sustainable development. The Inland waterways public transportation system for Pune city can help us rejuvenate the transportation ways in the city. If correct vessels are used for transportation this way of conveyance can be economical as well as environmental friendly.

Keywords: inland waterways, public transportation, river training work, guide walls, siltation, airdraft.

I. INTRODUCTION

The use of rivers for goods transportation is not new in India. The same system with some custom changes can also be used as a public transportation system. Water based transport is the most effective. Operating costs are low because of less fuel consumption. The ability to carry more weight also helps in minimizing the operating cost. The Environmental pollution is much lower than transportation by road, rail or air. A major advantage for the water transportation is that the medium of conveyance that is the water, is naturally available. This makes sure that the budget of the project is lower than other projects such as highways, rail tracks, airports, etc. Transportation using waterways is very effective when the source and the destination are both waterfront locations.

Pune city is one of the metro cities proposed for the smart city project by the Government of India. But still the city faces major challenges of traffic issues and pollution issues. These all problems can be solved with a sustainable solution. Geographically Pune city is blessed with two rivers running right through the center of the city. Using this natural river system, public transportation can be established. This mode of transportation would be cheap and environmental friendly.

Inland waterways can help framing this sustainable solution. Transportation with the help of boats can be used as a public transportation system which can curb most of the challenges currently faced in the city .

II. Literature survey

1. Theoretical under-pinning of the study.

Water transport is the most cost effective and fuel efficient mode of transport. According to estimates, one litre of fuel can move 24 tonne km of freight by road, 85 by rail and 105 by IWT. Also, government figures establish the fact that a shift of one billion tonne km of freight to IWT will bring down the fuel coast by about INR 250 million and the coast of transportation by about INR 450 million. Data presented in table 1 in annexure makes is easier to understand why IWT is the most fruitful mode of transportation.

2. Geographical conditions of Pune city.

Pune city is blessed to have 2 rivers namely Mula and Mutha passing right through the centre of the city. The Mula River originates at Mulshi Dam in Pune district. The River Mutha originates at village named Vegare, in the western ghats. After flowing through out the city both the rivers merge with the river Bhima at the outskirts of pune. Both the rivers pass through the most densely populated areas of the city. According to Statistics of Inland water Transportation 2011-12, Transport Research Wing Ministry of Road Transport and Highways, Government of India, New Delhi the average width of both the rivers is 23.7 metres. This width is enough for two average size vessels to pass side by side along with keeping an appropriate distance between them.

3. Advantages.

3.1 Less traffic

The river bed would act as soft open freeway when compared to the roadways. The traffic would be minimum as the boats would be limited

3.2 Time saving

As there would be less traffic the time required for the conveyance would be very less. The river flowing straight through many areas would also make it time saving.

3.3 Pollution curbing

Public transportation system of any kind helps in reducing the pollution level of that area.

4. Problems.

4.1. Dirty water

The mula and mutha river are famous for being one of the most polluted river of India. The main reason of this is the 125 MLD of untreated waste water discharge by the Pune Municipal corporation. The Maharashtra pollution control board has classified the water quality of these rivers to the class 4.

4.2. Maintaining constant water head.

As mula and mutha rivers are not perennial rivers, Maintaining a constant water head would be a difficult task.

4.3. Rocky and uneven river bed.

Some stretches of mutha river have a very uneven and rocky bed which would make travel by boat difficult and unsafe.

4.4. Insufficient Air draft at some bridges.

The required air draft for a boat to pass under some bridges is insufficient.

4.5. Floods

The monsoons in pune can be harsh sometimes, this can create a flood like situation in the river basins.

III. Future scope

Once this public transportation system would be implemented the traffic issues and the conveyance time will be reduced greatly. Later on the timings of other public transportation systems (city buses, Metro) could be collaborated with this inland public water transportation system making it more efficient and convenient for the people using it. If this transportation system becomes popular then the ships used can be run on renewable energy making it more environment friendly. In later stages this system can be used for goods transport within the city limits this will reduce the number of heavy vehicles on city roads.

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