

Defining The Environs Of The River & The City

Ar. Tejas J. Naik

Architect & Urban Designer, India

Abstract: *The nature and man have equally contributed to evolution of the cities. The city's existence and survival has been determined strongly by the presence of a natural structuring element as that of a river system. Bearing a significant Functional, physical, visual and symbolic role to play, river system have been vital in shaping the manifestations of our cities.*

Over the years, the city-river interface has undergone dramatic physical changes, evolution and subsequent depletion in its principal usage. Vast expenses of slum and encroachment accentuate of visual clutter.

The course of the water through the urban areas, serving as a local sink for the city's waste and over exploitation of fragile systems, becomes more susceptible to a range of environmental problems and dangers under rising pressures posted by rapid urbanization.

Rivers lies as a 'no man's land' in the city fabric with untapped opportunities. The rivers provide opportunities to consolidate the void, to define the interface and to create a new urban vision for the city.

The topic looks at a re-addressing the city interface in relation to a river system by altering its status to a more valuable public asset. The intent is thus, to revert the form and structure of these obsolete, marginalized urban back yards into a new vibrant interactive space of the city, the shared public realm within a cohesive and responsive framework of intervention

The nature of the river and its nature cannot be overlooked, it is one of the prime factor which govern urbanization the function, the use and the nature of the spillover of the city is defined by the nature of the river itself.

If one considers a city as a collage of different system which have to work in harmony with each other, to ensure a sense of equilibrium then one has to start re-looking at the city, not considering it as a pattern of build but as mosaic of pattern of built, agriculture land and other natural resources with respect to the river and its nature. One would then come up with a pattern which contributes to a variety and a rich urban life.

Waterfronts are one of the most valuable resources for a country – being limited, precious and non-renewable assets. To secure long-term growth of the resource, it is important for waterfront areas to be used strategically to maintain their economic value and enhance their specific features or image (Bruttomesso, 2006). For this reason, Bruttomesso (2006) recommended 10 principles in order to secure in achieving waterfront redevelopment projects as are presented as following,

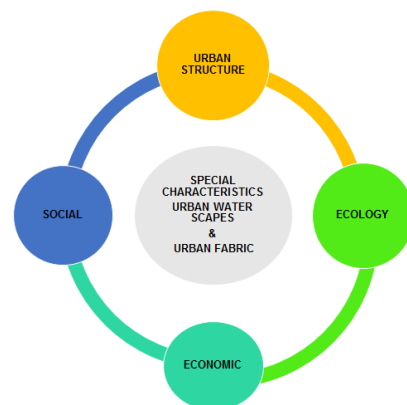


Figure 1

- ✓ Secure the quality of water and the environment.
- ✓ Waterfronts are part of the existing urban fabric.
- ✓ The historic identity gives character.
- ✓ Mixed-use is a priority.
- ✓ Public access is a prerequisite.
- ✓ Planning in public-private partnerships speeds the process.
- ✓ Public participation is an element of sustainability.
- ✓ Waterfronts are long term projects.
- ✓ Revitalization is an ongoing process.
- ✓ Waterfronts profit from international networking.

The below is the comparative analysis of the five different rivers, 3 international and 2 national

Name of the Waterfront	The Sabarmati Riverfront Development	Godavari Riverfront Development at Nanded, Maharashtra	Tokyo Waterfront Development	Louis Villa Waterfront development	Detroit International Riverfront
Waterfront Type	Monsoon-fed river	Monsoon-fed river	Sea Front	Sea Front	Annually-fed river
Reason of Development	Development of Social Life and Bring River Back To The City	Development of Religious and social life of Nanded.	Developed for upliftment of social life style	Developed for upliftment of social life style	Developed for upliftment of social life style
Stretch Developed	11.5 km	5 km			8.8 km
Site Plan					
Buildings proposed along the river	Cultural centers, museums, sports facilities, trade fair grounds and open air markets	Plazas, parks, recreational spaces, infrastructure and amenities, changing rooms, public toilets. For the visitors.	Olympic Village & Paralympic Games Business Center, Showrooms, Hotel, Cancer institute Hospital, Convention Zone etc.	Residential, Office, Retail space, Great lawn, parks, Walkways, Public gathering space, Boat Docking	Cruise ship terminal, Marina, Multiple use park, Restaurants, Retail Shops, Sky scrapers, Highrise residential area, Cabot Convention, Convention Center, River Walk

Figure 2

The water edges need to be taken into consideration during every phase of urbanization. These edges are the liveliest for public spaces. They can be used as city level open space. The social infrastructure like parks, recreational spaces, museums, art galleries, sport facilities, trade fair etc, would be the best possible activities. Then while doing the same the physical infrastructure also need to be planned for, so that the project can hold the upcoming pressure and it does not fail for the same. At the same time safety and security of the place also needed to be considered.

This type of the project needs to go through public private partnership. So that the economy can be generated and the social as well as economical up-liftment happens in the society. Hence hotels, formal trade markets, etc. should be planned, which would generate economy.

The edges also need to be planned so that the existing ecology, the flora and fauna can be taken carry of and improved by planning green buffer zone, with parks no vehicular zones.

On the bases of the case studies, further is the demonstrate a River-Front Development project, considering the factors of Sustainable Development. Mutha River, Pune.

MAUTHA RIVER, PUNE

The Pune city is very fortunate in having, in addition to the beautiful hills, a number of rivers flowing through it, rendering it with a potential for development in a variety of ways.

The Mutha River enters the city from south – west, the Mula River from north- west & the Pawana from the north.

After their confluence to the west of Dapodi, the Mula & the Pawana join the Mutha River near the Sangam Bridge and these rivers then take an almost eastward course & leave the Corporation area on the east of the Mundhawa village.

River being a vital resource for city, people from most sections of the society flock to these places to relax and experience the breeze. Due to inadequate public open spaces they sit along the road side kerbs in groups causing hindrance to pedestrian and vehicular traffic both.

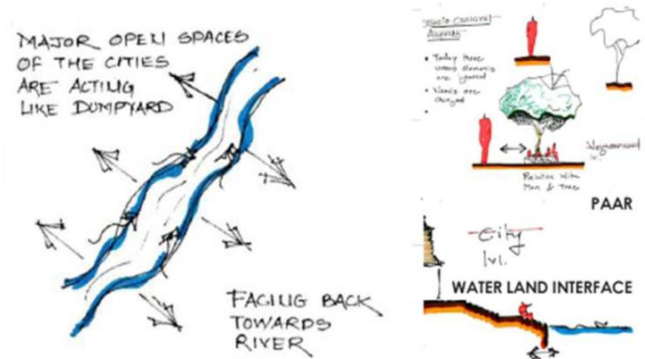


Figure 3

Linear stretches of riverfront which run through the entire city have been cut off from the city by ugly retaining walls and serve as nothing more but dumping backyards.

Unfortunately the present state of Mula and Mutha Rivers is deteriorating. Over the period of time due to enormous development of the city this river has become the drain where the city's waste, chemicals, excreta etc. is let out, leaving it one of the unhygienic spaces.

The bridges have gained much importance as recreational spaces not catering enough to occupy the floating population mainly the youth in the city.

The PMC has developed the DP road along the river disturbing the ecology of the immediate surroundings of the river banks.

All these factors have taken away the essence of the river and is merely used by local fishermen, dhobis, slum-dwellers for specific activities

Another issue is that there are no vehicle free pedestrian streets or plazas purely reserved for recreational activity apart from the parks around.

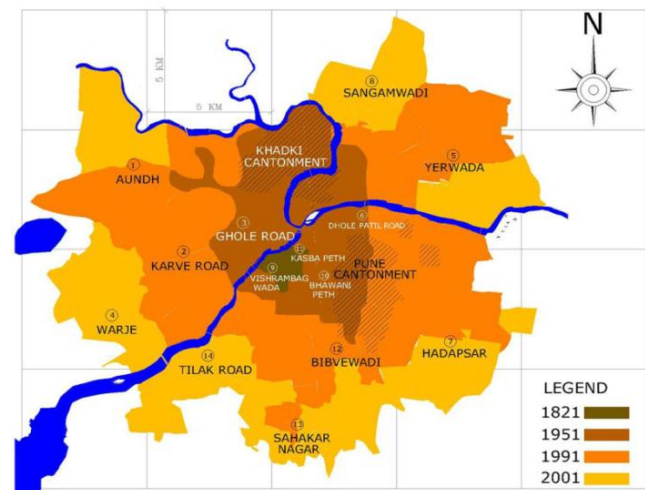


Figure 4

In a process of urbanization the urban fabric around the river is showing the back to the river. The places like temples etc. the access to water is there but the condition of the place is very deprived.

Despite its growing importance as an industrial city, Pune has also held on to its love for music. Vocal classical music has always had an impressive following in Pune. Even today there are a large number of organizations which present music concerts and festivals, of which the most important are the Sawai Gandharva Mahotsava and Pune festival.

There are also many festivals celebrated in the city, events which denote the culture of Maharashtra organized in Pune. One hundred and ten years old Ganeshotsava, Diwali celebrations incorporating rangoli competitions, castle making competitions for kids, dahi-handi celebrations, id and Christmas celebrations to name a few. This all happens at individual level as well as at community level. But in today's era the community place are decreasing as the ratio of the built to the un-built has increased at an alarming rate and the city definitely needs more open spaces. Increase in population, rapid development, change in lifestyle, increase in traffic, and encroachment into public spaces. Open spaces are the stage where our individual public lives unfold. The open spaces in our city gradually lose their social attributes under the pressure of vehicular traffic and dense urbanization. The only parks open to public, identified as open spaces are insufficient in number.

The more recent solutions to the definition of public spaces adopted are in the form of multiplexes, theatres, malls, food joints, coffee shops and the smiliar. The common man is being left out of this semi-public realm because of affordability, causing a social rift, lacks of awareness and planning strategies to use potential sites have all contributed to this.

The city of Pune has also been always recognized for the markets like Tulshibaug and Mandai which have retained their charm and vibrancy over the period. The increasing number. of malls and shopping complexes are the reflection of changing lifestyles; but at the same time they are inducing the feeling of placelessness since they do not have a particular flavour which old markets had.

The city also witness the different fairs, which take part on the agricultural ground, which is on the one part of the city and around 15km away. The is no other alternative place in the city for recreational activities like exhibition, fairs etc. hence an alternative space need to be identified.

On the other hand it observed that the area along the river is vacant not put to the best possible use. Also various incompatible activities are been experienced.

CALCULATIONS OF AREA UNDER MUTHA RIVERFRONT DEVELOPMENT						
Sr.No.	Start of the Bridge	End of the Bridge	Stretch in Km	Area under river front development in sqm		
				River bed Area	Land reclaimed on East side of River	Land reclaimed on West side of River
1	Rajaram Bridge	Mahtre Bridge	1.87	268944	34427	119439
2	Mahtre Bridge	Abasaheb Garware Bridge	0.65	93398	44270	63151
3	Abasaheb Garware Bridge	Shivram Mathre Chavan Bridge	0.23	27609	0	0
4	Shivram Mathre Chavan Bridge	Sambhaji Bridge (Lakdi Pul)	0.24	28860	39168	14269
5	Sambhaji Bridge (Lakdi Pul)	Maharishi Shinde Bridge	0.9	117050	17220	0
Total				3.89Km	535942	331944
					135085	196859
					867886sqm (86.8 hec.)	

Figure 5



Figure 6

In the above the land use around the river and the photo depicts the issues off the river edge, like vacant land not accessed, Ghats in depilated conditions, buildings showings back-yards to the river edge, parking on the river bed, the roads against the act but still on the river bank, the informal markets and encroachment, the sewage disposal without treatment into the river, all affecting to the degradations of the river and it's environment. Hence all these factors need to be considered.

Also while development the various stake holders needed to be considered are Residential, Tourist and Religious, with their related actives, like daily travel and the visiting aspect of each stake holders, the easy accessibility, the elements of various interests like, play grounds, cafeteria etc. also the consideration of no vehicular zone & making the area more pedestrian friendly need to be taking.



Figure 7

While planning the consideration would be to address all the issues with up-lifting the environs of the river and providing the sustainable approach to solve the issues.



Figure 8

The elements like the pedestrian bridges across the river connecting the edges, providing the parks along the residential areas, provide the green buffer, sitting spaces, Ghats along the temple, and organized informal trade market, cafeterias, recreational hubs, provide proper street furniture, drinking water outlets, lightening, waste bins etc.

The Design Proposal:

The design moves were to modify the river channel into 30m river flow, 30m both side 100 year flood area, 20m area for reaction. Improve the public transport stops near the pedestrian axis leading towards the river edge. Encourage the cycle tracks and pedestrian axis leading towards the river edge. Provide a hub of formal in formal activities along the river edge, a tourist hub on one edge of the river bank & also a green buffer zone.

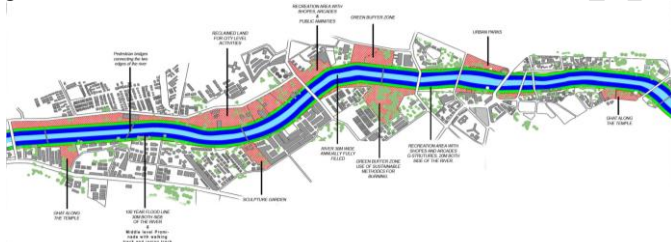


Figure 9: The zoning of the area along the river

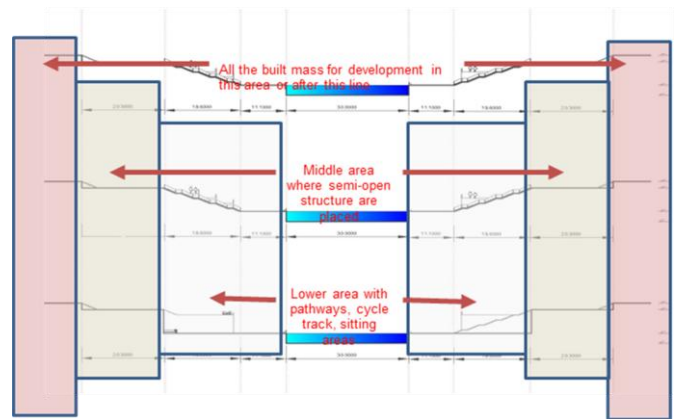


Figure 10: Proposed section of the riparian zone

CONCLUSION

In today's era of urbanization, the river edge needs to be considering as pressure cooker for the re-recreational activities and as city level open space. This area should be considered during the planning of a city and planned accordingly, while doing the same the care should be taken that the environs of the river is not affected in negative manner, but should be enhance, to the best possible manner. Also various stakeholders be consider and evolved them into designing process, which will help in up-dating the lifestyle of the society with economic up-lift meant. Also while doing the same the sustainable element needed to considered.

REFERENCES

- [1] Waikerie Riverfront Development Concept Masterplan.
- [2] Sabarmati-Riverfront-Development_comp
- [3] Lehigh Riverfront Master Plan Report.
- [4] Breen, A., & Rigby, D. (1994). Waterfronts: Cities Reclaim Their Edge. New York: McGraw-Hill.
- [5] Bruttonesso, R. (Ed.) (1993). Waterfronts: a New Frontier for Cities on Water. Venice: International Center Cities on Water.
- [6] Wood, R., & Handley, J. (1999). Urban waterfront regeneration in the Mersey Basin, North West England. Journal of Environmental Planning and Management, 42(4), 565-580.
- [7] Public Places Urban Spaces The Dimensions of Urban Design. Oxford. Architectural Press, 2003.