

Sriganesh Rajendran

ON THE RIVERFRONT

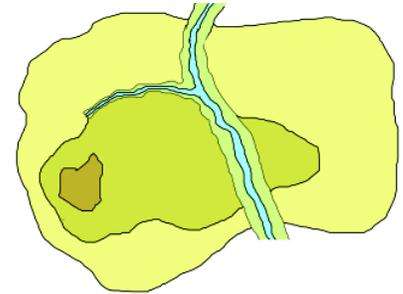
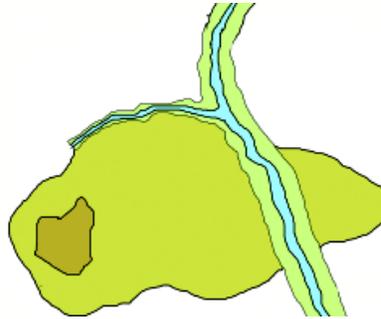
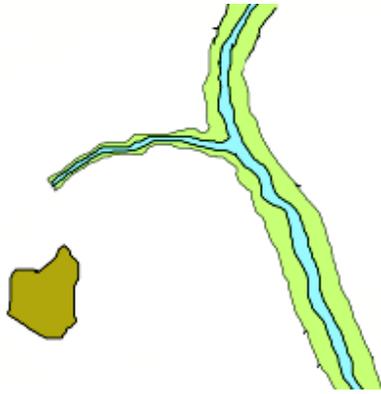


Ghat along mature river stage – Dasashwamedh at Benares. Photo credit: Author

The possibility of sensorial contact with water is a much desired notion of a riverfront. Many cities around the world have a river flowing through some portion of their urban fabric. In such places, the edge between land and water becomes a mosaic of natural and manmade features such as river terraces, ritual spaces, industry and ports. In recent years, the concept of riverfronts has gained currency through commercial and leisure-based activities defining the land use along the river.

River and City relationship

While riverine regions such as *Mesopotamia* (between rivers), *Do-ab* (two rivers), *Punj-ab* (five rivers) have been cradles of civilization in various eras, the interface of the river and city, to an extent, has depended on the evolution of the city form in relation to the river.



City-River Interface: Peripheral, One sided, Bisector.
Sketch credit: Author

A river-city interface can be initially absent due to physical distance between the river and the city such as Bhubaneswar (Kuakhai), Bangalore (Vrishabhavathi and Arakavathi). Due to the peripheral location of the river, the relationship between the built and the natural remains undeveloped for a long time.

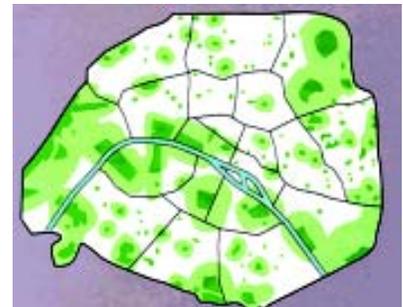
When the city grows along primarily one side of a river, the river appears to have a one-sided relation to the city form, for example New Delhi (Yamuna) and Kolkata (Hooghly). When urbanization affects both banks nearly equally, the river appears to bisect the city form resulting in nearly identical lengths of riverfrontage, for example Hyderabad (Musi) and Lucknow (Gomti).

In narrow rivers, the urban forms on opposite banks have a strong visual and physical relationship to each other and

on the riverside for example Paris (Seine), Chicago (Chicago), and Sheffield (Sheaf) whereas with wider rivers, the distant banks may relate to each other only through silhouettes on the skyline.

Riverfront Design: Issues and Potentials

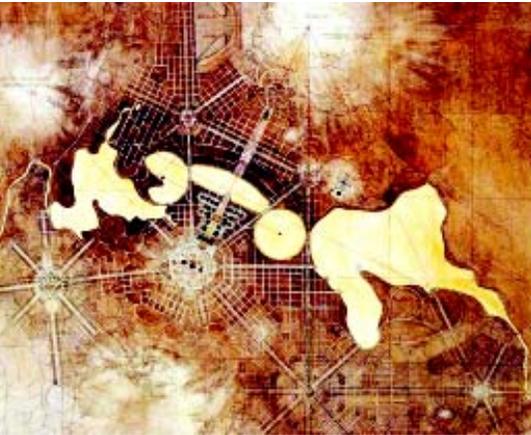
While a city or urban area perceives a river as a territorial and even a societal discontinuity, figure ground maps and grey tones imply a perception of the river corridor as a continuum of voids (open spaces). Such abstraction can trigger a re-think on the way the river's presence can penetrate deeper into the urban form and new ways to connect with the city. In India, the river as a place of ablution and ritual creates an articulated land-water interface – the *ghat* – whose morphology and meanings change in relation to the stage and age of the river.



Paris as a series of Green spaces in relation to the Seine. Photo source: flickr.com



Figure Ground – River and Built edge.
Photo source: smogr.com/alert/images/ep_09/Parma_IT_1840_zoom.jpg



The relation between a river and city form can get altered for various reasons. The Molonglo River cutting through the site of the proposed city of Canberra was shaped into large water basins by Walter Burley Griffin to create a grand setting for the Masterplan. The city of Surat with the river Tapi as its age-old trade lifeline is a different example. The new railway line in the hinterland altered the river-city relationship for a long time as the city grew in the direction of the new transport corridor.¹

A major climatic or tectonic event or a man-made obstacle may disturb the river's course over a short time causing the river to completely disappear or leave only traces of its flows, while the river's propensity to meander can sever some vital links. The river Sarayu flowing past Ayodhya meandered over time and severed its link with the *ghats* that once lined its length, creating a dry river bed in its wake. The riverfront restoration efforts involving landscape architect Prof. Ravindra Bhan-successfully re-established the historic land-water

LEFT | TOP TO BOTTOM

Walter Burley Griffin's Masterplan for Canberra. The water basins are now named collectively as Lake Burley Griffin. Photo source: upload.wikimedia.org/wikipedia/commons/4/4e/Canberra_plan_shaded-WBG.

River Tapi, Old Surat and the Railway line. Photo credit: Douglas Haynes

The revived old ghat at Ayodhya . The meandered Sarayu is to the North East. Photo source: Wikimapia.org

relationship by diverting an irrigation canal along the original river course. The resulting revival of the Ayodhya Ghats can be considered a novel and bold approach.

Other important factors are that of the physical access to the river and response towards its natural width. Opportunities to cross the river and points of access allow people a visual contact with the river as a starting point of the sensory experience. The width of the river is generally seen as a physical barrier when it exceeds the typical range of comfortable walking distances. Beyond this width the bridge tends to be more traffic oriented, and less pleasant to cross by foot. Also, the frequency of crossings become farther separated. The width of a river has a strong influence on the scale of the river corridor, the riverfront and its uses and relation to the opposite bank. The bridges, in turn, can be integral to the image of the river.

At places, the city edge tries to protect itself by intervening with the natural char-

RIGHT

Small rivers and frequent crossings – Paris. Photo source: <http://www.polizzifamily.com/bridges/>

RIGHT BELOW

Large bridges – Vidyasagarsetu, Kolkata. Photo credit: Author

acter of the river and constraining its flow through dykes and embankments, giving it a hard edge. Elsewhere, river dynamics need sensitive land use and limited occupation along the river corridor. In rain-fed rivers, the dry seasons the riverbed is seen as a continuation of land resulting in an extensive open space with multiple uses. Private land uses along the river are an impediment to continuous access of the riverside due to issues of security and privacy. Yet, controlled access at specific times of the year through such lands may be an acceptable solution which needs to be investigated.

A contemporary Indian example in this regard is the Sabarmati Riverfront. As a seasonal river, the Sabarmati is a large urban void potentially capable of linking the open spaces on its opposite banks. The unique aspect of its economics lies in its efforts to create a largely self-financing project and the holy grail of creating new land for prime real estate within the heart of the city. It is likely that the Sabarmati may become the new





National Resource First

The central watershed master plan for Singapore river aims to make Singapore less reliant on neighbouring Malaysia for its water. Within this, Bishan Park by Atelier Dreiseitl is a pilot project involving park planning and integrating it with the Kallang River that flows beside it. The Kallang river was once a tributary of Singapore river. Its present condition as a divisive barrier between the park and people is being re-cast as an integrating feature, providing more access and use of the river.

ABOVE

*Before and After – Aerial view of Bishan Park.
Photo source: Wikipedia.org*

environmental image of Ahmedabad. Even the Sabarmati Riverfront Development Corporation Limited proclaims it as such “...For the first time in recent history, water in the Sabarmati will be clean...”² since the river will no longer be a conduit for urban sewerage and pollution”. The Sabarmati example is being closely followed on the banks of the Tapi river in Vadodara, albeit at a smaller scale and scope. Being India’s most visible riverfront project, it would be fair to say that the fate of many an urban river in India perhaps lies in the outcome of the Sabarmati riverfront.

Contemporary urban riverfront strategies are often guilty of similitude. Ideas such as promenades, plazas, amphitheatres and gardens seem to constitute most riverfront development programmes. The expression of design concerns appears to be user-driven rather than river-driven, relegating such projects to aesthetic improvisation, if at all. For riverfront projects, to rise beyond beautification and aesthetic cleansing, it is necessary to first ques-

tion whether the river bank is a place to be built upon by consulting cultural, ecological and hydrological wisdom. Thereafter, many issues need to be accommodated in the design such as flood management, reduction of pollution, orienting built forms, incorporating religious, ritual and social spaces, marking historic continuity, integrating unassigned spaces and ensuring democratic access. In addition, low impact options for river navigation and sustaining river-based livelihood should be sensitively dealt with.

Before recommending any intervention, urban rivers need to be first understood as ‘upland’ or ‘lowland’ in a regional context. The principal causes for the degradation of a river needs to be comprehensively mapped beyond its banks and reach as incessant inflow of pollutants causes rapid degeneration of its ability to support a variety of aquatic life. Any impediment to a river’s flow eventually creates turbidity and discoloration in the water. The visual pollution of the riverside should be assessed in addition

Centering Urban Renewal

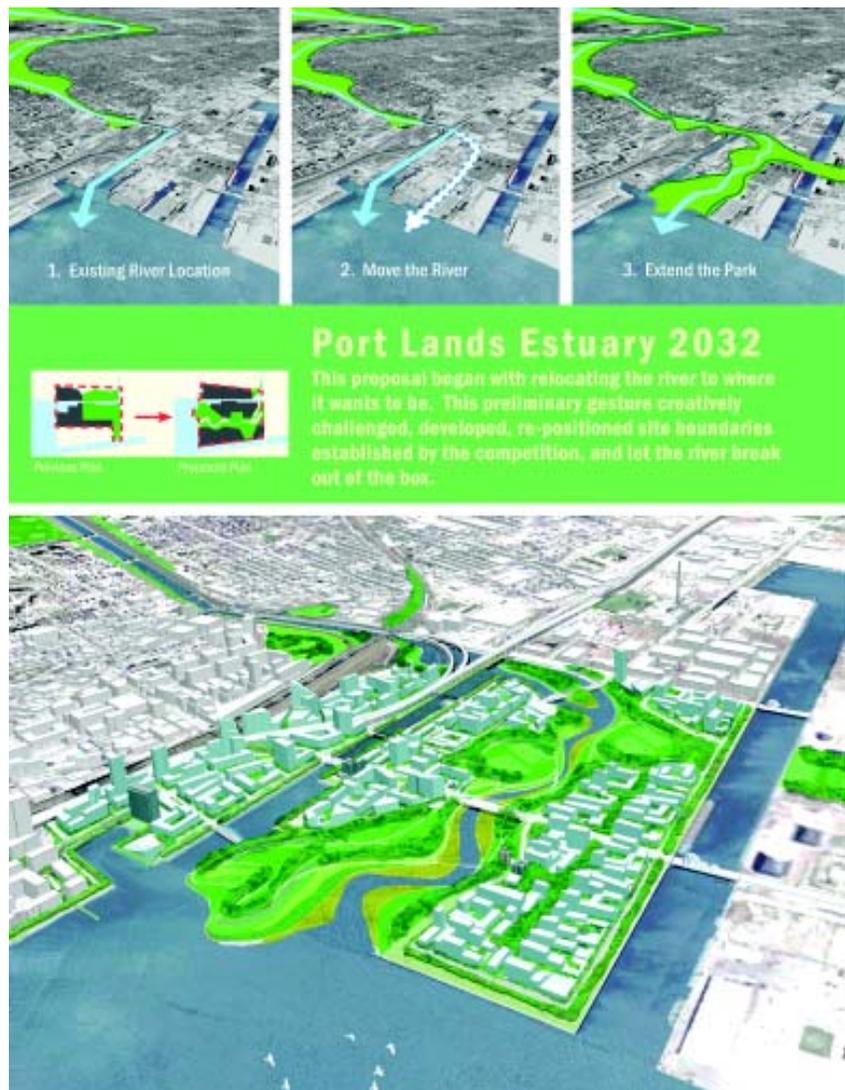
The international competition for the Port Lands Estuary plans to transform the largely underutilized industrial area along the Toronto Waterfront into new sustainable parks and communities, with the river Don as its centerpiece. The current mouth of the Don River is an artificial remnant of an era of city building in which a landfilled industrial port was considered the highest priority. Instead of creating naturalized banks along the straight course of the existing channel connecting the Don River with the lake, as was originally suggested in the project brief, the proposal by Michael Van Valkenburgh keeps the channelized estuary as an urban artifact and neighborhood amenity and creates a new mouth for the river from the upstream source, bypassing the abrupt right turn created by the channel. A large new meandering riverfront park becomes the centerpiece of a new mixed-use neighborhood focussed on ecology and microclimate as a means of creating new habitat for plants and animals alongside new recreational opportunities that will support a new urban life on the site.

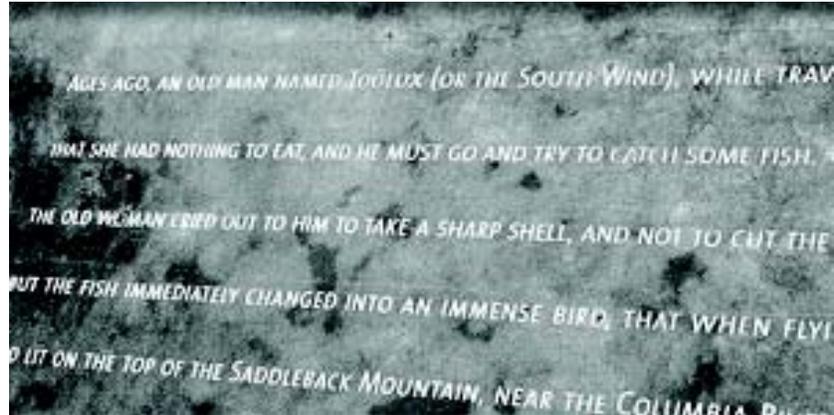
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Revitalization strategy for the Port Lands Estuary. Photo source: asla.org/awards/2008/08winners/

to the bio-chemical visual and physical pollution of the water.

A common refrain about riverfront development becoming piecemeal, falling prey to vested interests is a bottom line assessment of riverfront projects in India typified by the Hooghly and the Yamuna riverfront development efforts. The Hooghly and Yamuna share some overlaps in their respective Colonial history, but their waterfronts bear distinctly different images. While efforts to integrate the Yamuna with the city can be traced back to the earliest of urban development master plans, with commendable potential, little is seen on ground. In comparison, the Hooghly has perhaps made a better start, although late and fragmented. However, the programmes which have succeeded on ground have been the small gestures, whereas the larger ones about ecology, urban history or even place-making await a more comprehensive and focused effort.





Cultural Memory

The Confluence River Project involves a series of installations that follow the path of Lewis and Clark through the Columbia River Basin. Each of its seven sites features an art installation by Artist and architect Maya Lin that interprets the area's ecology and history, encouraging the visitor to reflect on how the surroundings have changed over time. Each of them references a passage from the Lewis and Clark journals or traditions grounded in Native American cultures and the region's history. The project also looks at communicating impacts on the landscape due to human intervention during modern times such as the waterfall submerged due to the construction of a dam. Cape Disappointment- the mouth of the Colombia river and the end of Lewis and Clarke's Journey, marks the beginning of the Project.

ABOVE | LEFT & RIGHT

Maya Lin's installation at Cape Disappointment—end point of Lewis and Clarke's journey. The inscription is a Native American tribe's folklore regarding their origins. Photo source: journeybook.confluenceproject.org

These examples highlight the gaps in interpreting vital issues like perspective, jurisdiction and scope which ultimately become a barrier for design professionals, environmentalists and government officials, each unwilling to understand the river from the other's point-of-view. Changing this would equip the city with more informed approaches to riverside management, limiting intervention only where most appropriate.

The Way Ahead

In India, surreptitious and blatant de-notification of flood plains and tidal marshes for development is a major catalyst for man-made disasters such as the Mumbai floods of 2007. In most scenarios, the riverfront is marketed as a scenic residential setting – a picture postcard image of an outward-looking lifestyle within the concealed ironies of gated communities. Somewhere in between, are debates on the value of a river, its water quality, determination of its edges, the restoration of flows, the notion of sustainable landuse etc.



LEFT

Menavali Ghat, Wai. Photo source: flickriver.com

Whether such projects actually extend their concerns all the way to the river, estuary, or stream flowing alongside remains to be seen. The handful of projects which look at Indian rivers and a few recent, acclaimed ones from other countries can perhaps serve as a storyboard to infer how these gestures have been successful in their own little ways over a period of time. The Yamuna riverfront at Agra from the Mughal era shows an array of land uses apart from creating the necessary settings for iconic buildings. Perhaps investigating such time-tested examples in a modern milieu, may guide our urge for inhabiting and developing our riverfronts.

It is worth remembering that as a celestial metaphor in the landscape, a river has influenced the pyramids at Giza, the

location of the temples at Benares and the layout of cities such as Hampi. At Agra, a river organizes a Mughal garden on opposite banks in a spiritual and highly artistic expression of Paradise. Kalidasa's praise of rivers with similes³ and the works of various poets constitute a ready spectrum for design abstraction. Popular songs ranging from *Tu Ganga ki Mauj*⁴, to *Maa Rewa*⁵ personify the river, while for singers like Bhupen Hazarika the river is no less than a muse.

Just as Louis Kahn asked a brick what it wants to be, it is time we ask our rivers what their essential nature of a riverfront should be. It is time the relation between the river and its city is rekindled with affection and longing.

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