
Research Paper

Retrieving Urban Waterscape as the Quality of Public Space: a case study of Shitalakshya River, Narayanganj

The Role of Urban Waterscape for City Livability

Md. Asifur RAHMAN, Urban Researcher, Chittagong University of Engineering & Technology, Bangladesh
Md Mustiafiz AL MAMUN, PhD Researcher, Delft University of Technology, Netherlands

Abstract

The livability of a neighborhood is directly associated with the quality of public space (QPS) of that urban area. While QPS is ascribed to many factors, considering the degree of characteristics of the quality of physical environment connectivity on livability and the role of recreation in the psychological well-being of individuals are the primary attributes of QPS. Alike in many historical cities in Asia, the Shitalakshya waterfront of Narayanganj and neighboring architectural heritage areas are integral elements of its urban fabric. Waterfront areas are a crucial mode of healthy living environment and recreational benefit for the urban dwellers. Simultaneously, improvised urban planning & modern transportation system have driven back and degraded the riverfront area. However, unplanned land-use zoning, transportation problem, and inconsistent intrusion hamper connectivity toward waterfronts, which turns the river edge into the neglected fringe of the city. The role of community engagement, in this case, is also overlooked. Thus, the cities of urban settlements face challenges in creating quality public spaces incorporating adjacent river and river-edge heritages, which has initiated an opportunity to rethink the waterfront. By comparing urban waterfronts in the study context and through empirical studies, land-use-based GIS mapping analysis, field survey, and photographic citations, the research investigates how the relationship among river-edge, adjacent heritage structures, and city fabric can contribute to developing the quality of waterfront public space. Later design-based outcome shows that the testimony of heritage structures, accessibility, visibility, amenities, user group, and functions of urban blue and green areas are directly and delicately connected with the quality of urban water edge, leading to a healthy living environment for a city. The research is argued that the city fabric and waterscape, entailing history, could create a tool to retrieve the quality of the urban environment alongside the water edge of the city.

Keywords

Accessibility, Architectural Heritage, Livability, Quality of Public Space, Urban Design, Urban Waterfront

1. Introduction

Early human history shows that water is an intrinsic and timeless magnetism for mankind (Mamun, Begum and Paul, 2019; Mamun *et al.*, 2020). Settlements were directly leaned on the location of navigable waters (Zhang, 2002; Mamun *et al.*, 2020). As encampments were established and immigrants arrived, waterfront cities came into being (Zhang, 2002). With technological advancement and



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innovations altering land, water, and air transportation many cities' waterscapes deteriorated. The dialogue between rivers and the adjacent built environment has been changing, as the land uses, urban fabric, and activity patterns correlated to waterfronts were shaped by the influence of many factors (Attia and Ibrahim, 2018). In maximum European cities, the success of the metropolis was primarily dependent on the connectivity of the waterway system to ensure goods, services, and news transformation elsewhere. During the industrial revolution maximum of large warehouses, industries and ports existed on the waterfront, however, de-industrialization made the circumstance different; the whole waterfront has become archaic (Hradilová, 2012). Along with the continuous reformation of social productivity, people have higher requirements for the living environment and attributes of life, which puts forward new demands for quality urban public spaces (Cengiz, Bekci and Cengiz, 2014). Like many tropical countries of Southeast Asia, Bangladesh, due to its geological context offered by the river, attracted human settlements. Here, the river is not only a part of the natural landscape but also one of the mediators of the social, cultural, and metaphysical identity of the people. Formerly these settlements were well connected by watercourses for the mobility of humans, trades, and other services. But currently, the waterfront is neglected deliberately and abandoned because of the change in the urban transportation system. Despite that, the waterfront has an extensive impact on urban life in the present-day trend of improvised urbanization through developing scope for public health benefits, recreation, tourism enterprise, and natural landmark (Shangi, Hasan and Ahmad, 2020).

Again, waterfront spaces and heritage structures are a significant part of urban public space, and their planning and design have become a crucial means to improve urban functions and shape the city's image, especially for the river adjacent cities (Liu and Liu, 2021). Despite the rising prominence of heritage, the complex traits of historic water-edge built environments have been overlooked in contemporary urban design (Mamun *et al.*, 2020). However, over the last decade, there have evolved several design frameworks and prominent approaches to deal with progressive urban challenges that influence urban waterfronts and nearby heritages (Gu, 2014). Traditionally, architectural practices have mostly concerned designing built forms through different typologies, patterns, and materials using distinct technologies; yet theoretically, they are likely to inform the effective administration of new development and redevelopment, assessing the character of the locality and wider urban context (Gu, 2014; Mamun, Begum and Paul, 2019; Mamun *et al.*, 2020). Gu (2010) illustrates the significance of an integration framework of environmental management, financial development, and urban design needs, which requires a wider consolidation with the historic development of the built environment of the city. However, incompatibility in making a decision between local authorities and neighbourhood residents is evident due to new monetary traits changing historical sites and affecting the quality of surrounding space and local life (Rahman and Imon, 2017). Such kind of perplexity indicates that there is a requisite to investigate how cities can achieve harmony among the river, heritage and contemporary built environments for retrieving the quality of urban waterfront public spaces. A contextual approach will require, yet contemporary architectural practice ignores contextual design (Daglioglu, 2015). Correspondingly, in contemporary theoretical and digressive studies of architecture, contextual reflection on senses of place, despite its once pivotal role in architectural philosophy, retains only scant analysis and generates a deficiency of interest among academics and professionals (Gültekin, 2012; Daglioglu, 2015).

Acquainted by a contextual approach, this research paper undertakes a case study of the Narayanganj city waterfront adjacent to the Shitalakshya river. As the Shitalakshya waterfront is stretched on both the bank of the river, the urban center is located in the western part of the city. So, the western bank is more vulnerable and unplanned, which leads to physical and visual differences between the eastern and western banks of Shitalakshya. Over the past decades, the condition of the waterfront public spaces has degraded due to excessive river pollution, restriction of public accessibility, and unplanned functional



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intrusion along the bank of the river. So, the study focuses on various forms of natural and human-designed quality urban waterfront space settings, which comprise the current central business district and the historic trading territory as acknowledged by the Narayanganj City Corporation (NCC) action area plan and vision 2030 urban development plan. The specific objectives of this research are: (1) to investigate the present conditions of the connectivity of the waterfront area with the city and the waterfront heritages in relation to its users, and (2) to retrieve the Shitalakshya waterscape as the quality public space influenced by waterfront settings. A mixed--method approach is used to delineate the issues and objectives. The evidence was collected from various sources, including experts' opinions, secondary documents, and the local user experience neighboring the waterfront area. The study concludes with the proposal of enhancing the quality of public open spaces withinside the Narayanganj city waterfront, with the use of city design theory and tools.

1.1. Urban development along Shitalakshya waterfront

The urban waterfront retaining the ecological resources, financial benefit, and civic space for social interaction and endeavor are remarkable structures. It stimulates and structures urban public space without creating contiguous boundaries, enhances the value of urban space and can delineate a specific image in people's mind maps (Niemann and Werner, 2016).

Narayanganj city is the 6th largest city, located in the center of Bangladesh, having a population of about 2 million (Banglapedia, 2022). The area has a hot monsoon climate. The tropical regions of the world are enduring rapid population increases and changes in monetary improvement and urbanization concurrently experiencing climate change consequences (Harding *et al.*, 2016). In the case of Narayanganj city, unplanned rapid urban change has certain impacts on the city's water-edge design, which is prominent to the city historically, culturally, and environmentally. Narayanganj is an ancient river port city located on the western bank of the Shitalakshya River with its enriched and eventful history, including the Sultanate, Mughal, and British colonial periods. It is assumed that the urbanization of Narayanganj started from the establishment of the Mughal defensive water fort, and the development of a communication system with Dhaka. The western edge of Shitalakshya was established as a business center during the era of Mir Jumla (*Narayanganjer Itihas*. First Ed, 1985). Narayanganj municipality (as an urban center) began in 1876 during the British colonial era. In the early history of the British period, Narayangang Town was recognized as a business hub characterized by dense settlements interdependent with the trading along the region's waterways. Since the watercourse was the cardinal mode of transportation system, the waterfront was the distinguished business and trading center. During the colonial period, it was nicknamed 'the Dundee of Bangladesh' because of the presence of numerous jute mills. Also, it was a center of trade and commerce, especially the jute business and processing plant, and the enriched textile manufacturing of the country. The British government announced 'Bandar' as a free port in 1880. Dhaka-Narayanganj rail line was constructed in 1885, from then communication with the whole subcontinent became easier and Narayanganj got popularity as a trade center (*Narayanganjer Itihas*. First Ed, 1985). It grew in significance between the 17th and eighteenth centuries, because of the inflow of the Portuguese and the English. The western bank of the Shitalakshya river developed first. Narayanganj has become significant in the 19th century, when the Rally Brothers started a jute processing and exporting company to the west in 1830, assisted by a British company from Assam. By 1908, 18 European and Indian agencies had been merchandising jute from Calcutta (*Narayanganjer Itihas*. First Ed, 1985). In 1944, when the George Anderson Company decided to give up its discarded jute business, Babu Randa Prasad Saha bought it and set up a jute warehouse and a dockyard with the Bengal River Service Company (present Kumudini Welfare Trust of Bengal) in the Khanpur area to provide jute balling scaffolding. Historic River Forts and buildings of heritage value convey these timelines and the

evolution of Narayanganj from a town to a city Thus, urban development continued to outstretch along the Shitalakshya river (*Narayanganjer Itihas*. First Ed, 1985).

2. Literature review

2.1. Urban waterfront

Generally, the waterfront is a realm of an interplay between the urban metamorphosis and adjoining watercourse. So, it is a place that integrates the water, the city, and its inhabitants together. As stated by Oxford American Dictionary the explanation of the waterfront is described as “the part of a town or city adjoining a river, lake, harbor, etc” (Dong, 2004). Breen (1994) cited the waterfront as the water’s edge in cities and towns of any size and the watercourse may be a river, lake, ocean, bay, creek, or canal. Zhang (2002) described a waterfront as a place coalescing land with water and having a natural appeal to its inhabitants. Indeed, the sea shore and riverfront areas had the most desirable water features for human settlement and in most countries, the waterfront land is developed preceding the inland area. Hussein (2006) defined a city’s riverfront as a dynamic space, where cities engage their shorelines. Although the word waterfront itself is understandable, some researchers use several words to replace the term waterfront, such as the riverfront, river edge, riverside, harbor front, city port, etc (Attia and Ibrahim, 2018). A more comprehensive definition by Guo (1998), as quoted in Dong (2004, p.7) acknowledged the waterfront as the connector point where land and water coincided, comparatively not over two to three hundred meters from the water line and one to two kilometers to the land site and takes within 20 minutes walking distance.

2.2. Urban Morphology and Historical Prospect of Waterfront

Water has always played an indispensable role in urban development. Through the historical and natural processes, the human settlement was established, and therefore, no steady inhabitancy until the time they were capable of growing their crops and domesticating animals, as human beings depended on subsistence. Predominantly the river provided a suitable circumstance for steady settlement and, for this reason, waterfront civilization appeared. Eventually, the settlement maintained a physical distance from the river belt, beyond the flood line due to flood hazards. During the middle age, bringing water became indispensable again for the safety of the established territory and acted the part of a fortification element. The 19th century became a turning point for city river embankment formation as earlier than the embankments had represented a rather defuncted urban fringe wherein the depositories and mill houses had been sited (Hradilová, 2012). The barrier between town and suburb faded away that entwined natural landscape with city residents, with the successive rapid urbanization and populace stress inside the city, while waterfront areas remain untouched because of flood risk. New waterfront development planning started as soon as the inner-city land price was escalating. Technological advancement in the construction industry used to shield embankment that bestowed a new sky sill for the waterfront city and initiated vibrant urban water edge public areas with all attractions of social intercourse (Shangi, Hasan and Ahmad, 2020).

2.3. Objectives of Waterfront as Urban Public Open Space

Open space can be characterized as a vacant lot that is not intensively developed for residential, commercial, industrial, or institutional use, whether it is publicly or privately owned, and serves many public purposes including spaces such as undeveloped shorelines, public parks, water bodies, historic and archaeological sites, and spaces even though it is surrounded by developed areas, often associated with significant open space (*Open Space 101*, 2022). On the contrarily public space can be described as an area to which people normally have unrestricted accessibility to perform individual or group activities,



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outside the confines of the control of an individual or small group, intended for a range of often-coinciding and symbolic functions, and therefore, usually multifunctional spaces distinguishable from absolutely green, partially green, or nongreen smooth or hard paved regions among built structures that are accessible to the general public in the same extent. Kevin Lynch defined urban open space as a region in a context that is open to prefer readily and spontaneous actions of people (Shangi, Hasan and Ahmad, 2020).

According to J. Gehl (2000), a city's public space is shaped by basic 3 features (spatial arrangement, function, and operation) and collective alliance among them. Where the spatial arrangement forms the whole urban composition, urban transport represents the operation, and finally, the ability of public space constitutes the function to meet the conditions for required, optional, and communal activities. Thus, the quality of public space is ascertained by whether these primary features are offered by that location or they can satiate the community demands (Hradilová, 2012).

“On the basis of typology and the use of urban waterfronts Maxmilian Wittmann (2008) identified the following categories of functional practices of urban waterfront areas (Hradilová, 2012):

- transport (road transport, rail transport, walking, and cycling)
- social (linked with public facilities)
- additional function to housing and housing itself
- recreation
- industrial use and as complementary functions there are:
- junction
- specific social function.”

2.4. Quality of Urban Public Space

Architect Jan Gehl (credited much with the transformation of Copenhagen city) has asserted that activities are essential in perceptions of public space and the physical quality of environments is also distinctly sensitive.

Ghel (1996) has depicted outdoor public activity in three brackets: 1) Necessary activity, 2) Optional activity, and 3) Resultant activity. Under extensive research far & wide, Ghel has concluded that the tangible quality of the environment influences the necessary activities slightly, as they are indispensable for life to continue. Conversely, optional activities are the direct barometer to measure the quality of public space because of their effect on user perception of that space. If people choose to stay in a place rather than hurry through, the place itself has the earmarks of being livable. Lastly, the resultant social activities are dependent on the number of users in space and the corollary of the other two forms of activity.

The Project for Public Space (2000), analyzed hundreds of public spaces over the seas and accordingly concludes stated that a high-quality environment is characterized by four cardinal qualities. They are:

- Access and linkage - Ease of access, visible, convenient to use, and move within;
- Uses and activities - provide an attraction to be there, justifiable and distinctive;
- Comfort and image - clean, green secure, full of character, and enchanting;
- Sociability - stimulating neighborliness, mutual interaction, and diversity.

Many other writers so as Kevin Lynch many years back argued that relative judgments about the importance of various qualities are matters of individual perception and will value differently by confronting each other more or less highly. Subsequently, local public space services will emphasize

different qualities that matter for local judgment. Yet Lynch (1960: 48–9) contended that the overall single image of a place in users' minds is created by the pattern of component images of place together, and the whole experience by the combined pattern of the space quality. Thus, focusing on some specific qualities to the pitfall of others may baldly undermine efforts to enhance the quality of public space largely (Carmona, Is and Hammond, 2014).

3. Methodology

This research is conducted through different methods, substantially including:

Literature review method: Through a considerable literature study, comparative analysis of domestic and contextual foreign projects, and theoretical development, forming a metaphysical justification.

Field observation method: Based on relevant theories, direct field observation was conducted to ascertain the present condition of the Shitalakshya waterfront, including recognizing the change in functional use, physical accessibility, and city-level connectivity. Direct observation was demonstrated by photographic documentation. Additional field observation is supported by semi-structured solicits with local authorial representatives (Narayanganj City Corporation, 11 No. Ward Councilor) and site neighboring land users.

Later, various two and three-dimensional software such as Adobe Illustrator, Adobe Photoshop, Autodesk AutoCAD, Google Sketchup, and Lumion is used to illustrate the data and diagramming of the case study area.

4. Case study

4.1. Site Location and Land Use Pattern

The appreciated site (figure 1) is located at 11 and 12 no. ward of Narayanganj City Corporation area on Narayanganj district, 1.88 km alongside the river Shitalakshya and, about 16 km southeast of Dhaka, the capital city of Bangladesh. Narayanganj is a historically enriched city having some archeological historical landmarks and places like the Mughal- Hajiginj Fort, Bibi Mariam Tomb Complex, Colonial- Kumudini Dockyard, Kumudini Office building, Shitalakshya river, Killarpool Canal, and Borofkol Playfield, etc. But the improvised rapid urbanization, land use, and urban morphology makes a worse effect on public life, activity, and the city itself. The waterfront areas are mostly occupied by various government organizations (BIWTA, BWDB) and Kumuduni Welfare Trust of Bengal.

5. Result

5.1. Riverfront Landscape

The Shitalakshya river edge is bestowed with a thicket of greenery, and gigantic canopy trees naturally. In recent decades permanent and semi-permanent illegal construction work along the river edge and aggressive river, management deteriorated the riverfront environment. Also, the water pollution creates unpleasant odors dumped from the riverside private manufacturing projects. Google map image shows (figure 2) the unplanned and deleterious development alongside the study area of the Shitalakshya riverfront between the years 2005 to 2021.

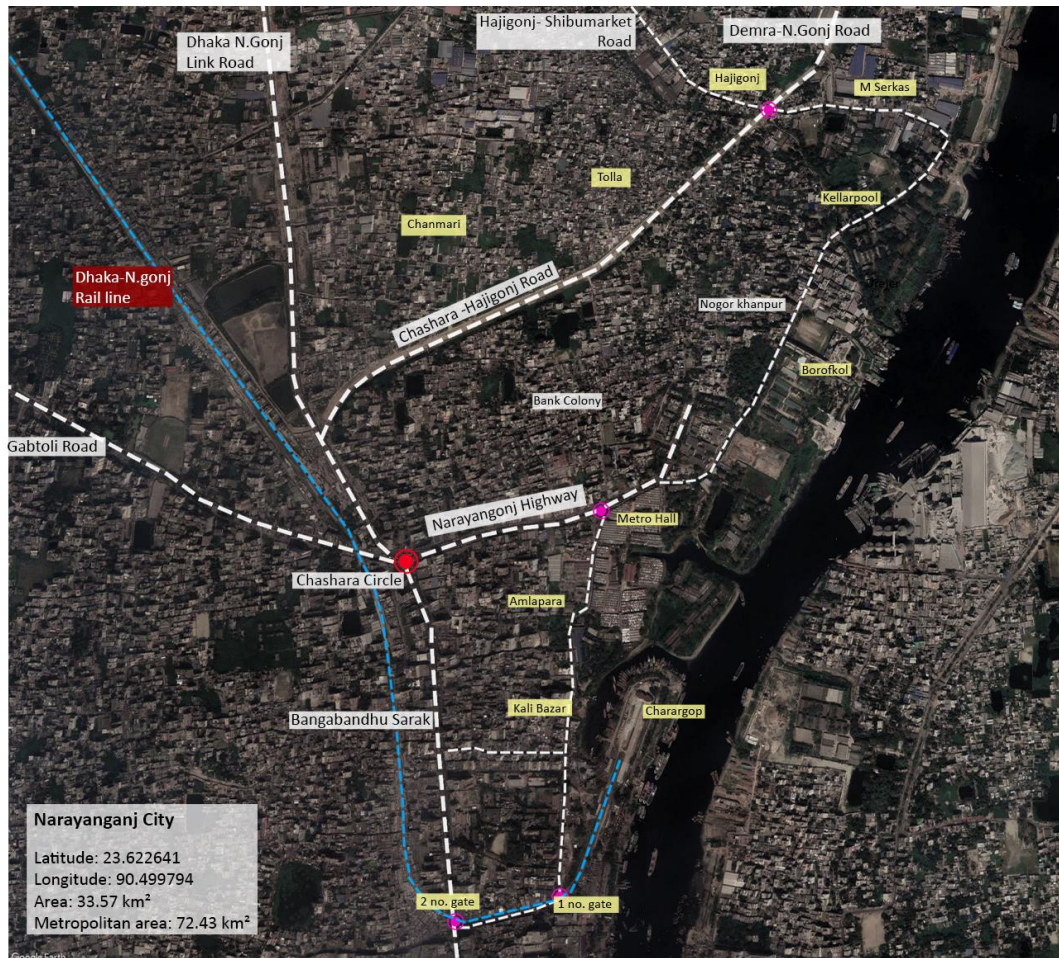


Figure 1. Location & Transit map of the study area; Source: Google map (modified) & Author

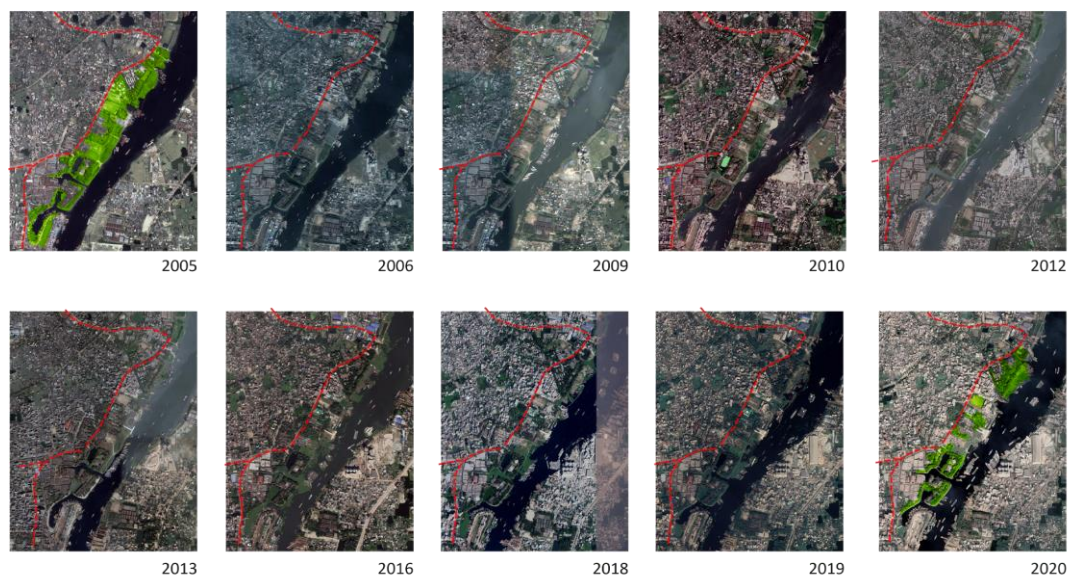


Figure 2. Chronological degradation of Shitalakshya waterfront space; Source: Google map & Author

5.2. Accessibility to the Waterfront

The site is adjacent to the Narayanganj-Demra highway, and the road separated the residential community from the waterfront area. The focal transition node at “Chashara” is 0.6 km from the site, so the appreciated area is connected by land and water mobility systems allowing motorized and non-motorized vehicular transport (figure 3). The secondary road connects the residential area with the highway, and some tertiary access roads are the only way to reach the river edge area from the residential neighborhood. A local river transport depot known as ‘Ghat’ is also available that is used to commute from each side of the Shitalakshya river but is not facilitated properly. Thus, the waterfront area is mostly disconnected and inaccessible to the pedestrians and site surrounding community.

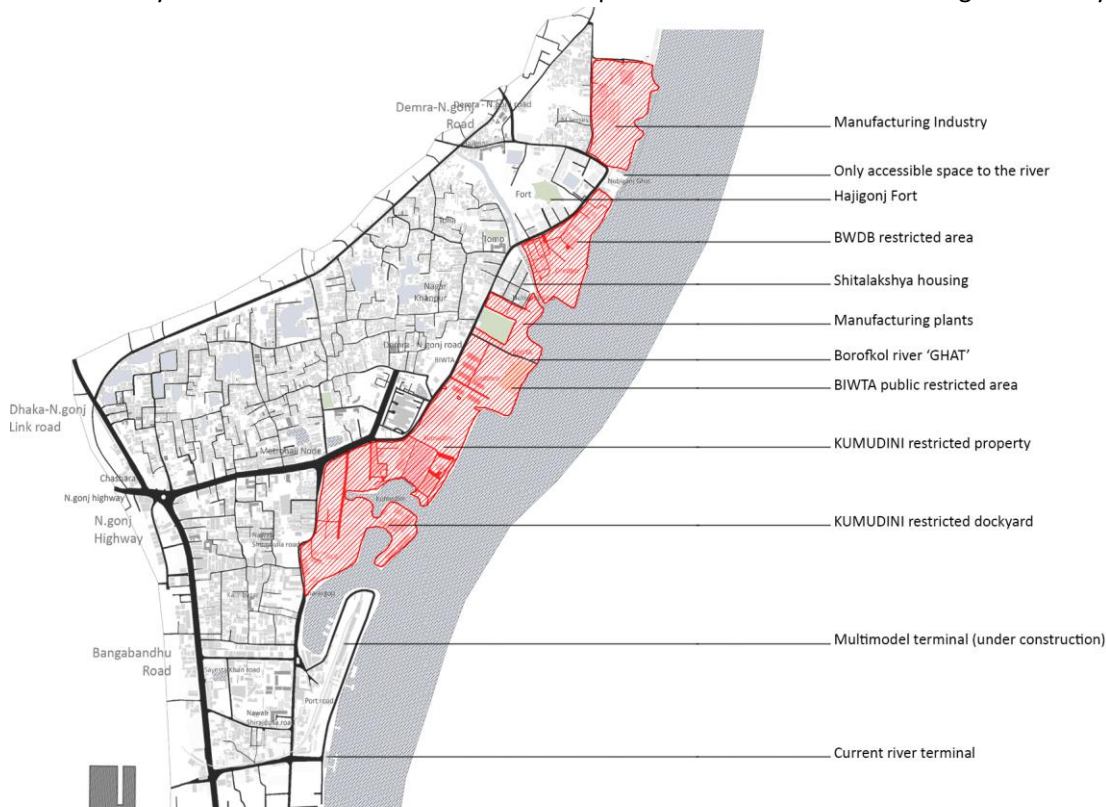


Figure 3. Accessibility diagram showing the restricted waterfront areas; Source: Author

5.3. Functional Variety

Functional diversity invites a different group of people to form, share and exchange their knowledge and activity. The investigated area is mostly government-occupied unused land and restricted to public access, which reduces the functional variety. According to the functional use, the area comprises Mughal and Colonial heritage structures, Government organizations, Manufacturing plants, an Amusement Park, a playfield, river ‘Ghat’, small public gathering space that draws the scant attraction of people to satisfy their needs. Late in the evening, the area remains unused due to the unavailability of public facilities, and smuggling & snatching occur in quiet places. Again, some of the areas are given as leases to private stakeholders. Thus, unplanned land use development and intrusion of various functions make the area more vulnerable.

5.4. Public Space and Activity

Previously the waterfront area was a vibrant and live trading place with the presence and activities of the different age groups. Currently, these vacant spaces are occupied by government and private organizations and remain unutilized heretofore. There are few places where people can experience the scenic splendor of the river. In some public restricted areas, riverside walkways are the only space from which people can enjoy the riverside scenic view. However, during some public festivals, city people are accustomed to visiting waterfront areas with their friends and family (figure 4).

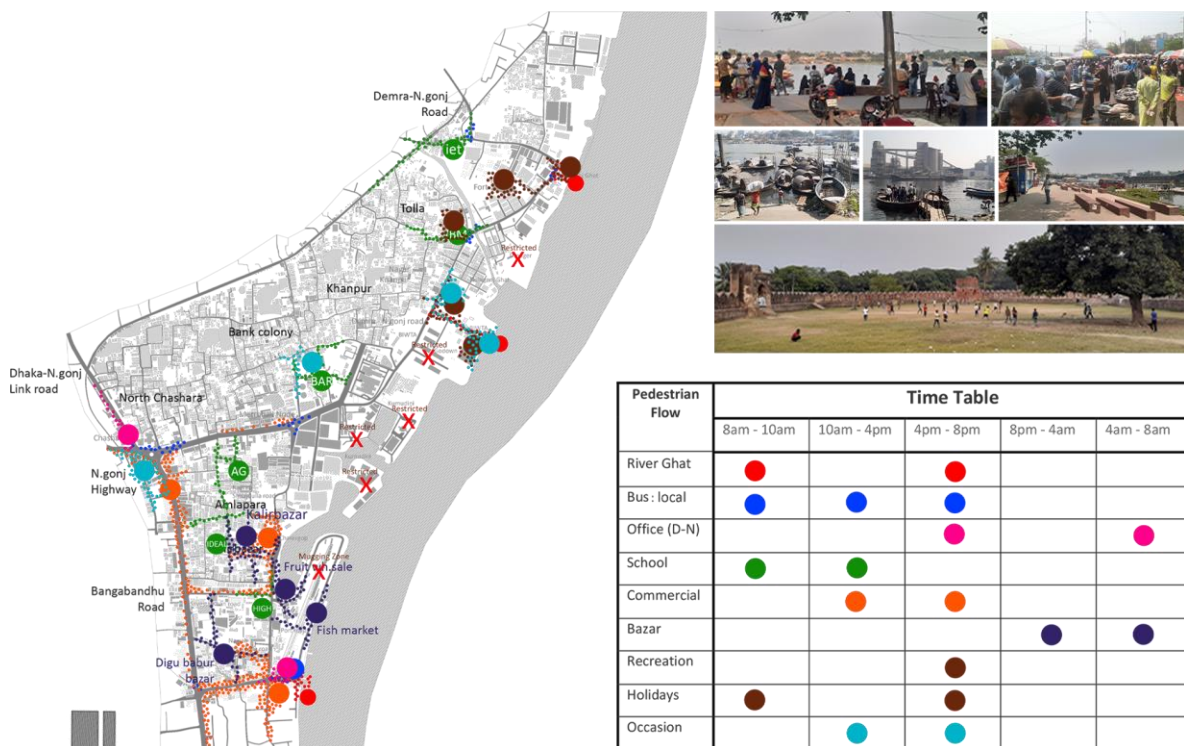


Figure 4. Public activity across the study area according to the timeframe; Source: Author

6. Discussions

6.1. Deficient accessibility

The lack of defined accessibility to the river edge area is one of the primary issues of waterfront deterioration. The Shitalakshya riverfront area and the archeological structures are separated by Narayanganj- Demra highway. Hence the connectivity among the area dwellers, archeological places, and the river edge is disrupted. Moreover, dense urban blocks limit the ease of accessibility to the public space. Also, successive liberalization of urban waterfront land use creates obstacles to accessibility. There are two accessible ways only, toward the river (Nabiganj Ghat and Borofkol Ghat), which remains overcrowded all the time because of illicit vendor shops, street hawkers, and local transport vehicle parking. Again, there is also a lack of pedestrian access for the neighborhood passers-by.

6.2. Lack of visual connectivity

BIWTA (Bangladesh Inland Water Transport Authority), BWDB (Bangladesh Water Development Board), and Kumudini are the major stakeholders of the Shitalakshya riverfront area, and these properties are

restricted to public access. Also, these occupied areas are surrounded by high boundary walls far above eye level, which hampers the visual connectivity between the river and the street. Thus, the river edge open spaces turned into a neglected urban fringe of Narayanganj city.

6.3. Lack of Functional diversity

Functional diversity is one of the core prerequisites to a quality public space to satisfy the users' needs. Because functional homogeneity could attract a specific group of users and thereby degrades the vivacious character of urban public space. The study site can be divided into three major functional zones (The heritage structures, communal facilities- playfield, river ghats, and river edge spaces). But there are no parks, festival plazas, and mixed-use urban facilities that can revitalize the activity of different user groups with diverse necessities.

6.4. Environmental Decadence

Formerly the waterfront was more natural with the pellucid water of the Shitalakshya river and the green grass bed alongside the river slope. At present, lack of public access, these areas turned into a wilderness. Moreover, river-adjacent private manufacturing plants and government buildings produce chemical and solid wastes dumped into the river, which causes unpleasant odor and river pollution. Thus, illegal and unplanned urban growth, insensitivity in maintaining construction guidelines, and authorial mismanagement augment the environmental deterioration of the Shitalakshya waterfront area.

7. Recommendations

To retrieve the urban waterscape as the quality of public space, a design framework (figure 5) has been developed that is shown below:

Providing accessibility is the primary concern to retrieve the vibrancy of a waterfront public space. To ensure a well-developed network for a public space integration of multimode transportation is needed. So, in this research, a continuous walkway and cycle track are proposed to connect the waterfront with the neighboring community, along with the Narayanganj-Demra highway, and many pedestrian walkways are proposed to provide convenient accessibility among the heritage structures and the river edge. Moreover, waterway connectivity through the Killarpool canal is revived and the archeological components are congregated to enhance the quality of the Shitalakshya waterfront public space.

Existing open space beside the Hajigonj Fort is proposed to connect with the waterfront with a Mughal essence in the landscape pattern. The water edge promenade and green buffer will protect the shoreline and reduce the flood risk. Through a public-private collaboration policy, public restricted open spaces could be shared with the city people to ensure the best utilization of riverfront space. Collectively, the proposed uninterrupted green corridor will develop a viable public recreation park with ecological benefits combining Hajigobj fort, Tomb complex, Borofkol playfield, and Kumudini heritage areas.

Public activity and participation depend on available and suitable urban functions in the waterfront area. To retrieve the waterfront vibrancy and activity, various public amenities, facilities and services are rudimentary. In this research, a wide range of functional variety is proposed according to statistical data and program analysis to meet the urban public demand and attract domestic and foreign tourists. The appreciated site can be divided into three segments utilizing existing historical evidence and functional zoning. An archeological institute, museum gallery, amphitheater, and public plaza are proposed in the Mughal archeological zone. Between the Mughal and Colonial zone, a city pavilion is proposed including, a cineplex, convention hall, library, food court, exhibition gallery festival plaza, and parking facility for the visitors. Besides these, along with the Narayanganj-Demra highway, various roadside public facilities, like

bus stoppage, passenger waiting shed, shops, and cycle parking shed is provided to satisfy the neighboring community's needs.

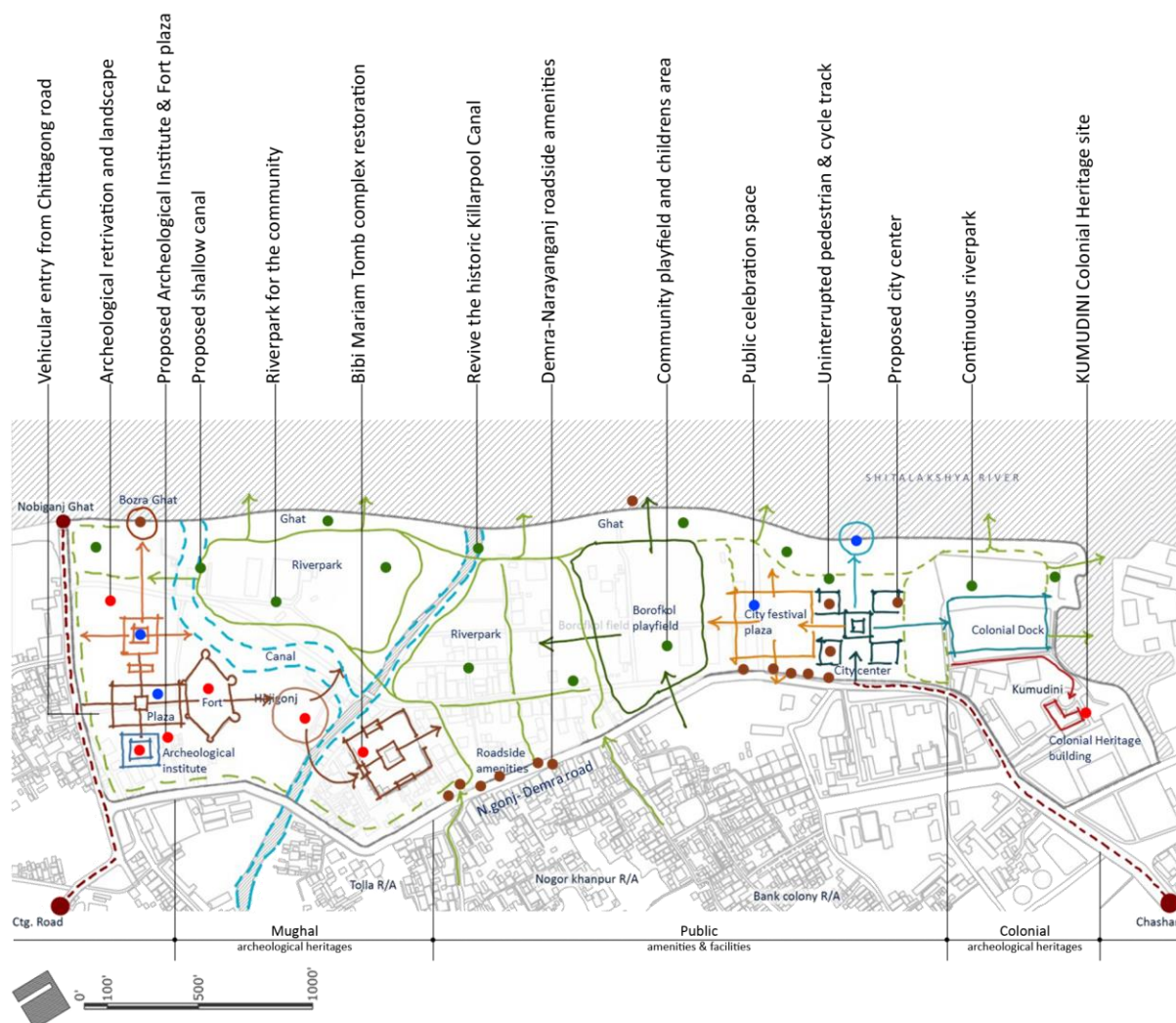


Figure 5. Proposed functional framework of the area; Source: Author

The master plan (figure 6) will be developed in three phases. In the first phase government-occupied Mughal archeological zone, Borofkol, and the city center will be developed. In the second phase, riverfront leased properties will be acquired to develop. Finally, the road network will be developed and private land acquisition will be required to develop the proposed masterplan of the area.

Therefore, a strict authorial guideline is necessary to control the improvised development and maximize the urban waterfront space utilization. Particular construction regulations should be established and implemented for sensitive waterfront areas. Finally, the urban management authority like City Corporation should work on a participatory basis with the private stakeholders and local citizens by developing plans and policies to ensure the quality of the Shitalakshya waterfront public space.



Figure 6. Proposed master plan of the Shitalakshya Waterfront area; Source: Author

8. Conclusions

The urban waterfront along with adjacent watercourses are an indispensable part of the formation and development of the human civilization, as they simultaneously hold a position to form a complex inner structure of the city organism. Markedly, the Shitalakshya waterfront could sustain the quality of public space to integrate the city people, water edge, and adjacent heritage structures in Narayanganj. The proper management and strategic target-oriented planning would fabricate retrieving the waterfront area as a prominent public recreational space for the city dwellers and a great attraction for tourists. In order to demonstrate the process, some urban design principles & techniques should be followed by the corresponding authority. The study has found that, despite the improvised urban planning & management, environmental degradations, insensitive intrusion along waterways, and the hindered connectivity among the river and surrounding community, the revival of the historical connection among the river, nearby heritages, and communities, through making the waterfront a quality public space, will improve the substantial qualities of the area, revive historical essence, enrich local commerce by generating microeconomy, and provide a much-needed healing space for the nearby inhabitants, which positively impact the overall waterscape of the Shitalakshya. While many global cities are initiating to regenerate the disdained waterfront, the waterscape along the Shitalakshya riverfront could be a paradigm for modern urban waterfront design by instigating this process of integration. Future research may also cover broader aspects of waterfront archeological heritage and policy analysis, which would contribute to a more comprehensive practice concerning the urban water fringe.

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