

How Can Historic Waterfront Conservation Help to Improve the Quality of Life in Old Dhaka

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Abstract

Livability of a city is directly related to the quality of life (QOL) in the city. While QOL is attributed to many factors, considering the degree of impact of the quality of physical environment on livability and the role of recreation in psychological wellbeing of individuals, these are the major determinants [of QOL]. Like in many major cities in Asia, the historic waterfront of Dhaka and nearby architectural heritage are important components of its urban fabric. Although diminishing in recent decades, the waterfront continues to play an important role in the social life of the people living in Old Dhaka. In recent years, protection of the waterfront from illegal encroachment and pollution has become a major agenda of civil society and NGOs. However, there is a general lack of understanding of how the river could help in improving the quality of life of the people living near it. The role of community involvement in this is also neglected. By comparing urban waterfronts in similar context and through literature review and observations, the authors investigate if and how the conservation of historic waterfront can contribute to the improvement of quality of life in Old Dhaka and suggest ways to protect riverfront with this objective. Instead of looking at the waterfront strictly as a geographic feature, this paper sees it as products of human manipulation of various natural components. It discusses the socio-political forces that shape the Old Dhaka waterfront, and investigates how the QOL of the residents living on the waterfront can be improved by conserving the historic landscape. It uses a case study approach based on documentary research, unstructured and nonparticipant observations, and interviews with community leaders, environmental campaigners and local organizations.

Keywords: heritage; livability; quality of life; urban waterfronts.

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1. Introduction

Urbanization, development of new modes of transport systems, technological advances and changes in the nature of economic activities are currently altering the historic relationship between a city and the water. Port and industrial functions that dominated the historic waterfronts have ceased in post-industrial cities making the areas derelict [1, 2, 3, 4]. But as authors in [5] observed, urban waterfronts in the Indian Subcontinent became continuously-lived high-density mixed residential-commercial areas with poor infrastructure and scarce amenities. From a heritage conservation perspective, historic waterfronts in post-industrial cities and that in the Subcontinent pose different kinds of challenges. In the former, the main challenge is how to deal with the structures and spaces that have become functionally obsolete. In the latter case, improve the living conditions while ensuring cultural continuity in the face of huge development is a big challenge.

Literatures on waterfront regeneration mostly focus on post-industrial waterfronts [1, 2, 3, 4, 6, 7, 8, 9]. Except for a few [5, 10, 11, 12], little research has been done on waterfront regeneration issues in the developing countries. By presenting a case from Old Dhaka, the historic core of the capital of Bangladesh, this paper attempts to contribute to the discussions on waterfront regeneration in a developing country.

Addressing the quality of life (QOL) of the community people is important for urban regeneration in a developing country [13]. QOL encompasses various spheres of human lives, and provides a better indication of any qualitative changes in the lives of the concerned people. Also the historic urban waterfronts often contain rich cultural heritage. However, Hoyle [14] found that such projects in various parts of the world paid more attention to commercial interests at the expense of the residents' social needs. Thus this paper looks at the relationship between urban waterfront regeneration with heritage conservation, and its impact on QOL.

Delimiting a waterfront concerning large water bodies like rivers is important in the impact assessment of waterfront regeneration projects. Instead of looking at the historic waterfront of Old Dhaka strictly as a geographic feature, this paper takes the approach of political ecology. Authors in [15] argued that urban waterfronts are products of human manipulation of various natural components, e.g. water bodies, land formations and ecosystems over a time, and that "the history of urban waterfront development provides examples of the ways material forms of nature have been transformed by a wide range of socio-political decisions" [15: 254]. This paper looks into the socio-political forces that shape the Old Dhaka waterfront, and investigates how the QOL of the residents living on the waterfront can be improved by conserving that. It uses a case study approach based on documentary research, unstructured and nonparticipant observations, and interviews with community leaders, environmental campaigners and local organizations.

2. Historic Waterfront Conservation

Projects involving historic waterfronts often focus on physical and economic development with the aim of renewing derelict waterfront districts. Conservation of the historic significance of waterfronts is not one of the main objectives of these projects, though they may involve some form of architectural conservation. In this paper, all such projects are referred to as waterfront regeneration projects. Waterfront conservation is distinguished from waterfront regeneration

if one of the main objectives of a project is the conservation of the historical and cultural significance of a waterfront.

Many waterfront regeneration projects in the West during the late 1980s and early 1990s included conservation of architectural heritage. These show how such projects could “create new social facilities, expand employment and provide a foundation for the environmental, economic and social regeneration of many urban areas” [8:144]. Recent projects demonstrated that waterfront regeneration could also help create new leisure and tourism opportunities [12]. Others [3, 7, 8] were concerned with design standardization, preference to commercial goals over community needs, displacement of traditional waterfront activities, and conflict between local residents and new developments. The issues of standard approach to waterfront regeneration and the loss of traditional activities are critical at places of historical and cultural significance because of various tangible and intangible cultural manifestations of unique qualities. Many riverfront constructions (e.g., in Amsterdam or St. Petersburg) failed to address the socio-cultural and aesthetic values of the city, altered the natural ecology, and disrupted historical human interactions with the waterfronts. The Thames Embankment project however showed that riverfronts can increase people's “cognitive connectivity” even if separated physically [16].

Atavistic desires drove most such early projects [3, 14]. In the US, these focused on “rehabilitation and redevelopment consisting of a wide development mix including residential, recreational, commercial, retail, service and tourist facilities” [8:144]. The main driving force behind this approach was real estate led economy. This influenced waterfront regeneration projects in other parts of the world too. Projects like the London Docklands, the Sydney Darling Harbor or the Lambton Harbor in New Zealand are some of the examples influenced by this model [8]. These sites of thriving ports or docklands became decayed or subsequently derelict with the change in economic situation or due to new developments in the region. The solutions the western projects sought were suitable for those sites as their main functions ceased to exist. In those cases, conservation of cultural heritage has been limited to the adaptive re-use of some historic structures that did not pay much respect to their roots.

Economic considerations were one main driving force for waterfront regeneration in the less developed world too. But the prime rationale behind such initiatives was to boost tourism-based economic development, rather than real estate [12]. However, as author in [10] pointed out, despite the above often being the intrinsic motivation, many waterfront projects in Africa and Asia that subsequently became UNESCO World Heritage sites, such as the Stone Town (Zanzibar), Lamu Old Town (Kenya), Medina of Essaouira (Morocco), Hoi An (Vietnam), and Melaka and Georgetown (Malaysia), focus on cultural heritage conservation.

Singapore restored its once-polluted river through a decade-long facelift in the late-1970s. It transformed the Boat Quay, commanding the shipping business in the 1860s, to an upscale tourist strip, replacing the dingy barges and derelict warehouses. According to authors in [17], motivated by conservation and tourism gains, it eschewed the economic forces that marginalized the local identity. Chinese coastal cities having rapid economic transformations have also renewed waterfronts. Market forces resulted in industrial areas interspersed with luxury housing in Shanghai as economic plans were incarnated in planning to attract investment [18]. Similarly Hong Kong's 'redevelopment, rehabilitation, preservation, and revitalization' scheme continues efforts to redevelop the Victoria waterfronts as against the habit of demolishing everything to build high-rises [19].

With economic growth in South Asian or Middle-Eastern cities, some of them retained or revived their historical connections with the waterfront, protected their architectural and urban heritage, improved the physical environment and infrastructure, and provided the community economic opportunities. While the World Heritage sites on urban waterfronts can be regarded as the best examples of conservation efforts involving waterfronts, it is important to note that none of these projects started with the aim of regenerating waterfront. Rather, the historic relationship between waterfronts and their associated urban cores made such conservation essential.

3. Quality of Life and Historic Urban Landscape

Authors in [20] showed the importance of nature in cities for better quality of life. Also there is a direct relationship between the quality of a physical environment and the physical and psychological wellbeing of the residents [21, 22, 23]. “Livability” expresses the measurement of QOL in a city. According to authors in [24: 29], it is “‘quality of life’ as experienced by the residents within a city or region” that:

“...is directly tied to their city’s aesthetic character- the public squares, the neighborhoods, the arrangement of the street network, the architecture, the open spaces and landscaping of the city. This aesthetic creates the identity and communicates the essence of the city.”

QOL Index by the Economist Intelligence Unit [25] is based on health, family life, community life, material wellbeing, political stability and security, climate and geography, job security, political freedom and gender equality. This and Mercer Quality of Living Report [26], another similar index, use indicators developed by others. A look into these factors or indicators and other similar indices reveals that the quality of life depends on many interdependent factors; it is the general sense of wellbeing that influences the quality of life perception the most.

A livable community is socially inclusive and focuses on environmental preservation. ‘Livability’ ranges from the aesthetics to economic revitalization [27]. It entails urban design, environmental quality, and human and economic development. Originally, this focused on ways to reclaim the economic, retail and social centrality of downtowns. But criticisms of socially deadening, poorly designed and environmentally destructive urban sprawl and the destruction of wetland habitats started in the 1990s. Such ecological restoration and environmental rhetoric of livability bestows elements of ‘authenticity’ on developments while allaying fears of the loss of ‘nature’ and ‘community’. Urban political ecology presents a scope to consider a more nuanced analysis of the production of waterfront than simply as an artifact of gentrification. Preserving and enhancing the livability of a place has been seen as a way to retain people near it [28].

The experience of quality of life by residents is influenced by their psychological wellbeing too. Authors in [29, 30] found that among various factors, social participation have positive impacts on the psychological wellbeing of community members. Public spaces for social interactions thus can play a significant role in enhancing the QOL experience, and can help maintain a healthy public life, enhance familiarity with local places and people, and provide opportunities for interaction with neighbors and community organizations. Social interactions can also contribute towards achieving and maintaining social diversity and harmony within a mixed-culture society by providing opportunities for interaction between communities, enhancing social cohesion and maintaining

community identity, which collectively can also enhance community members' sense of wellbeing. The intimate scale of historic cities and urban areas, with their traditional public meeting points, provides the crucial support for such interactions, the maintenance of which is emphasized by ICOMOS [31:6]:

The loss and/or substitution of traditional uses and functions, such as the specific way of life of a local community, can have major negative impacts on historic towns and urban areas. If the nature of these changes is not recognised, it can lead to the displacement of communities and the disappearance of cultural practices, and subsequent loss of identity and character for these abandoned places.

Urban waterfronts are the historical meeting points for people for trading, religious and commuting purposes. In the Indian Subcontinent, rivers have a very important place in the lives of people. Strong associations between water and religion, especially in Hinduism, exemplified by the holy places e.g. Varanasi on the Ganges and Mathura on the Yamuna, show the influence waterfronts have on the lives of people. Although it is less spiritual than utilitarian, rivers have equally important roles in the Muslim-majority places, e.g. in Lucknow on Gomti. Unlike Varanasi and Mathura, where religious structures dominates the waterfronts, the Lucknow waterfront is a mixture of residents and squatters, cremation *ghats* (decks), and open recreational spaces [5].

Conservation of historic areas (including of waterfronts) encompasses human development, resource management, income, funding, education, training, open information, multi-disciplinary collaboration, and participation between decision makers and people [32, 33, 34]. The *Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas* (The Nairobi Recommendations) [35] recognized the irreplaceable socio-economic context of historic urban areas and their surroundings where human activities are an essential element. As historic areas are dynamically transformed, new urban spaces give evidences of the future; conservation maintains this reference to express and consolidate citizenship and pride and ensure belongingness. It not only injects new use, but provides an inspiring vision by embodying the history and forming the spiritual or cultural milieu. Long-term sustainability calls for improving lifestyles and the sense of well-being by preserving local resources and ecosystems. Sustainability as an eventual goal in conservation and regeneration strategies can multiply benefits over time. Thus conservation has to include not only cultural and historical issues, but put a value to ecological and natural assets of the locality too.

4. The Historic Waterfront of Dhaka

Dhaka, a major urban centre in the largest delta of the world, grew at the southern tip of a Pleistocene period terrace where two large rivers– Buriganga and Shitalakhya, meet (Figure 1). Dhaka rose to prominence when it became the capital of the Province) of Bengal of the Mughal Empire of India in 1608. Later, under the rule of *Governor Shaista Khan* (1662–79), the city's population grew to a million within an area of 160 km² [36]. Dhaka's growth started to decline as the capital was shifted to Murshidabad in 1713. Regiland Hebar, an English clergyman, observed the overall apathy in dwindling trade, ruination of once splendid houses and factories, and death of textile sectors [37]. By 1828, Dhaka's area shrunk 16 times and the population 21 times [38]. Late that century, Dhaka started to re-emerge as a centre of trade, industry, education and culture as railway linkages were established.

During 1905-12, Dhaka was the capital of the new province of East Bengal and Assam. It started to set up civil lines, parks, avenues, and bungalows in Ramna, an area on the northern outskirts. After the British left India in 1947, Dhaka became the capital of the eastern part of the newly-formed country Pakistan. 24 years later, it emerged as the capital of a sovereign country Bangladesh. Starting from 1905, the northward expansion of the city away from the river still continues. Currently more than a million people live in Old Dhaka on only 7% of the city's gross built-up area at 250% more density than rest of the city, which is one of the most crowded urban areas in the world [39].

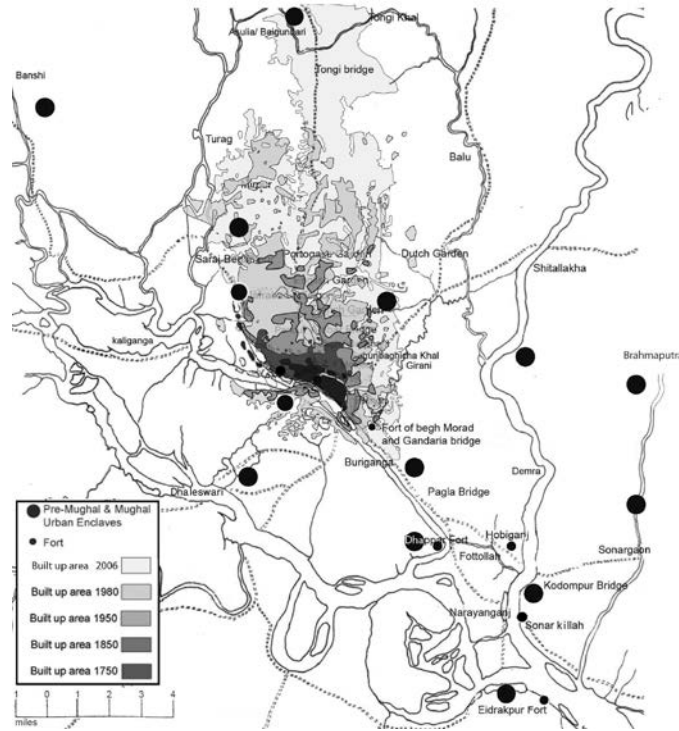


Figure 1: Location and Expansion of Dhaka City in the Context of Surrounding Rivers.

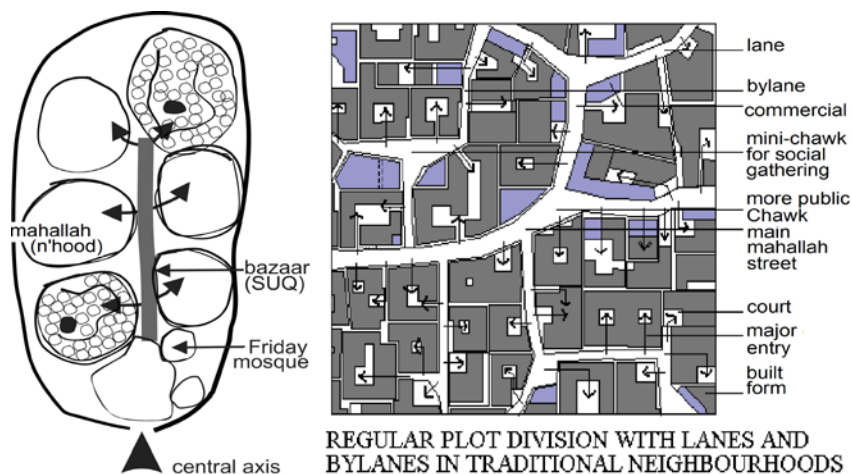


Figure 2: Morphology of Old Dhaka- street pattern and the socio-cultural spaces

Pre-Mughal Dhaka consisted of caste-based *mahallas* (quarters) and bazaars [40]. Houses had front entries from cart roads and service entries from water bodies at the back [41]. The long narrow shop houses and houses facing inner-

courtyards generated a dense settlement with intimate social spaces. The winding lanes, often ending at the river bank, created social spaces at the street level. The street junctions and sudden widening of the lanes due to placing of built masses would form popular hangout spaces for all ages [42]. *Chawks* (squares) were the larger social gathering and festival spaces [43]. This pattern of social and outdoor spaces linking the courtyard, lanes, street junctions and *chawks* still characterise the socio-cultural spaces in Old Dhaka (Figure 2).

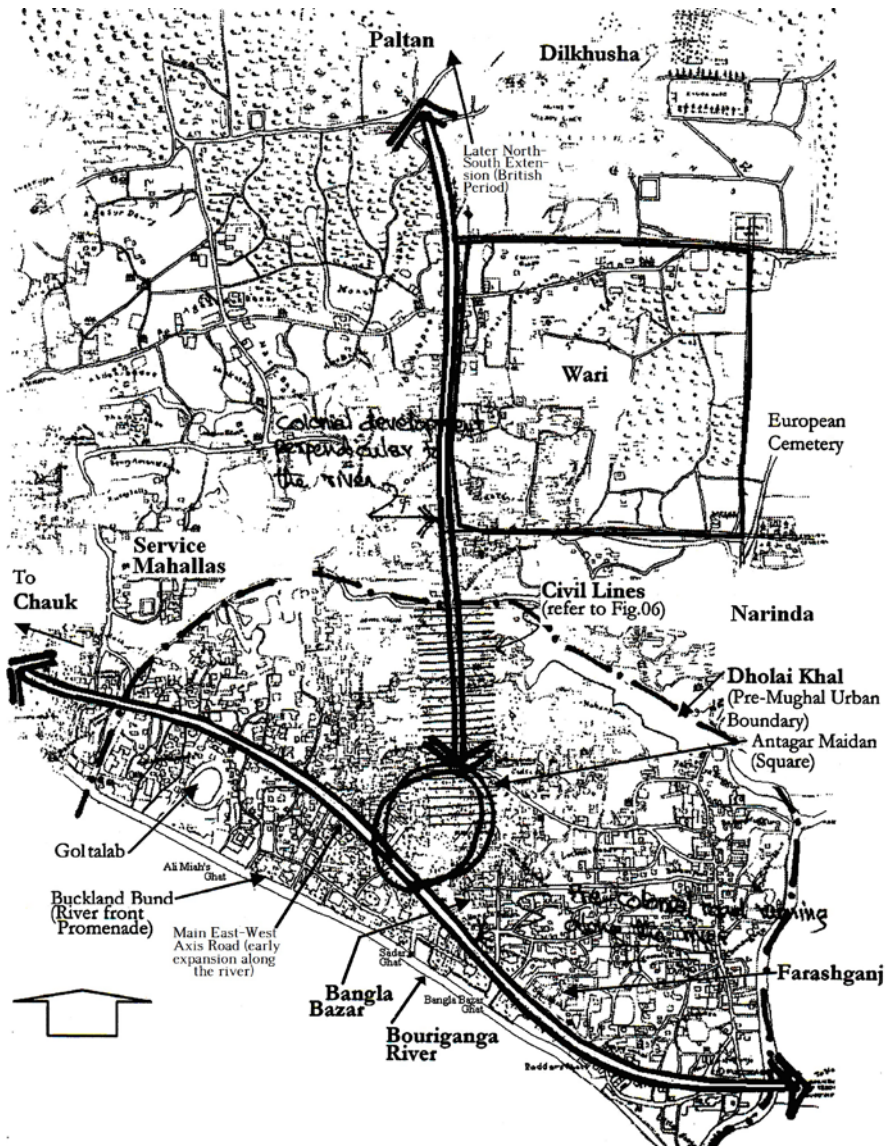


Figure 3: Dhaka's Growth in relation to the River

Islampur Road, running parallel to the river, is the oldest major street that connects Narinda (eastern Dhaka) with Lalbagh (west) (Figure 3). Large important royal, civic and religious structures— some are now protected monuments, were constructed on this road (Figure 4). Authors in [44] noted that Dhaka extended in breadth as luxury houses were lined up on the sought after riverfront with a magnificent view both from and towards the city. River *ghats*, significant transitory spaces linking the river with the land, had commercial, social and religious roles. These were used as wholesale points of primary produce, embarkation places, and sacrificing and cremation points. All types of formal and domestic activities and regular and seasonal rituals evolved around the water, making sense of the particular

morphology featured by orientation towards water [45].



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|--------------------------------|------------------------------|--------------------------------|-------------------------------|
| 01. Suspension Bridge | 02. Northbrook Hall | 03. Eden High School | 04. Sadarghat |
| 05. Weisghat | 06. Ali Miah's Ghat | 07. General Post Office | 08. Collector's House |
| 09. St. Gregory Church | 10. Dhaka Municipality | 11. Mohsinia Madrasha | 12. Victoria Park |
| 13. Protestant Church | 14. Law Court | 15. Kotwali Thana | 16. Louis's Nulla |
| 17. Nawab Estate Office | 18. Badamtali Ghat | 19. Amiruddin Daroga Masjid | 20. Babubazaar Masjid |
| 21. Mitford Hospital | 22. Armenian Church | 23. Nawab Yusuf Market | 24. Lalbag Water Works |
| 25. Aurangabad Killa | 26. Dhakeswari Temple | 27. Salimullah Orphanage | 28. Shahshaheb Bari |
| 29. Muslim Burial Ground | 30. Military Police Line | 31. Bibi Mariam Masjid | 32. Shikh Guruduara |
| 33. Salimullah Muslim Hall | 34. Ahsanullah Engr. College | 35. Bara Siva Temple | 36. Greek Tomb |
| 37. New (Dhaka) Club | 38. Collector's House | 39. Commissioner House | 40. Kali Mandir |
| 41. Shabaj Kha Masjid + Mazaar | 42. College Play Ground | 43. Secretariat/ Dhaka Medical | 44. Imambara (Hussaini Dalan) |

45. Musa Khan Masjid 46. Curzon Hall 47 . Dhaka College Laboratory 48. University Senate
49. New Secretariat 50. Peer Yemeni Masjid + Mazaar 51. Veterinary Dispensary 52. Sultani Masjid
53. Miran's Nulla 54. Governor's Bungalow 55. Dana Dighi 56. Zoo 57. English Cemetery

Figure 4: Part of old Dhaka in 1925 showing the location of few Heritage Buildings.

The ever steady growth of Dhaka towards the north where only land with higher elevation is available started in early last century. By then, many civic, administrative and educational buildings were already built within what is now known as Old Dhaka, around many of the established centers, along the river bank, or by adopting new functions in older structures. Despite the existence of a small settlement since the Mughal period, the expansion on the other side of Buriganga (south) started only after the construction of bridges in late 1980s. Till early British colonial rule, waterways around Dhaka, vital for mobility and natural drainage, provided an ecological and recreational space. However, haphazard growth of the city led to reduced dependence on the waterways in Dhaka [46]. Over the years, Buriganga shifted towards south, giving rise to some new lands along the old river bank. Informal settlements of low-income groups and small and informal businesses were set on these and on land reclaimed illegally (Figure 6). Furthermore, a flood protection embankment constructed along the river's edge in the 1990s was turned into a road connecting the north and the south-western part of the city. Author in [47] pointed out that it severed the visual linkage to and from the river and restricted direct access to it, and thus broke the historical relationship between the structures on the riverfront and the river.



Figure 5: Left- Famous Seven-Dome Mosque on the River (1950s); Right- the Mosque now conserved but the river has moved and surroundings been heavily built upon.



Figure 6: Encroachment (left) and Detrimental Uses (right) of Riverfront.

5. Current State of the Historic Waterfront

Since the independence in 1971, the pressure on land and other infrastructure grew tremendously due to immigration. According to authors in [48], about 18.72 km of water channels and about 76.67 km² of wetland are lost during 1978-2009. Author in [49] showed that the rate of loss of wetlands (502.5 hectare/yr during the 1989-99) increased to 1922 hectare/yr in 1999-2005. City planning mainly based on land allocation did not consider the water bodies that once provided natural drainage and transport corridors; this failed to protect its water and heritage resources. Illegal reclamation of new land, limited access to the riverfront and absence of any development control allowed rapid transformation of the riverfront through construction of commercial, storage and manufacturing facilities, encroachment of the waterfront, pollution, etc. Also, dumping of untreated industrial and domestic waste into the river turned it into an open sewer [50]. Yet Buriganga, the 500 meter wide river with a 20-km long bank along the city, maintains a maritime connection with southern Bangladesh, houses diversified economic activities, and provides a cultural identity to the locals.

Old Dhaka in general is deteriorating physically and getting denser, leading to constriction of open spaces and gradual inhabitability. It's civic and service amenities are over-stressed, the narrow winding streets are choked with pedestrians, animals and vehicles [51]. Many of the protected monuments are in a dilapidated state because of lack of maintenance or abuse. The riverfront, which had been a place for recreation and festivity for the riverfront communities, is now encroached upon by warehousing activities and parking of goods carriers. The riverfront is also used for dumping commercial waste and as slums on bamboo stilts. The situation is exacerbated by the transformation of the usual low-rise residences and business establishments into multi-storied structures. Consequently, the recognizable social spaces, and patterns of interaction, entertainment and mobility, have changed significantly [43]. Yet, Old Dhaka is preferred by new economic migrants who can find cheaper housing in dilapidated buildings and easy jobs in small scale manufacturing and river-based activities [52, 53].

The Old Dhaka has lost many of its valuable urban spaces; most of the historic structures are in poor physical state, or many have been lost completely. Direct access to many of them from the river is no longer possible. Two most important civic spaces in Old Dhaka – Chawk Bazaar of Mughal era, and Victoria Park of British era, were directly connected to the river. Many of these structures also had considerable amount of landscaped open areas surrounding them that had enhanced the livability of the area in the past. However, most of them have been encroached upon by structures and uses that are alien to the surrounding, and detrimental to the heritage artifacts and their values. Only two partially conserved open areas are around the Ahsan Manjil and in the Lalbagh Fort.

6. Approaches to Old Dhaka's Waterfront Protection

Old Dhaka has a long association with the river that did not only increase its connectivity, but also provided a breathing space for the locals. In the past, the city faced the river. But its growth away from the river, increased commercialization of the area, dilapidation of existing amenities, and undesirable development and encroachment on the waterfront made Old Dhaka less attractive [53]. As a result, the waterfront became highly polluted and almost inaccessible, which significantly affected the physical and psychological connection of the residents to the waterfront. These negative developments permeated into other parts of old city. Following initiatives—

fragmented and piecemeal approaches to multi-dimensional and interconnected issues, were made by non-governmental organizations (NGOs), government departments and the civil society to address these issues.

1. Awareness creation – This is the main form of action related to river protection. The aim of such actions by NGOs or environmental activists such as Bangladesh *Paribesh Andolon*, *Paribesh Bachao Andolon*, *Dhaka Nagorik*, etc., was to create public awareness and draw attention of the government to the problems associated with river pollution and encroachment of the riverfront. These activities that included organizing rallies and seminars, creating human chains, etc., did achieve some of their objectives and led to other actions as below.
2. Legal and administrative actions – In the last few years, several successful court actions initiated by NGOs, e.g. Human Rights and Peace for Bangladesh), forced the government to take up active programs to clean up the river and remove illegal structures from its banks. Bangladesh Inland Water Transport Authority (BIWTA) and the Ministry of Shipping are the main government departments involved in these. In the absence of a proper administrative framework and a management regime, the success of these programs has been short-lived; many cleared up areas were re-encroached. Nevertheless, such actions have produced visible and positive results.
3. Technological solution – BIWTA has taken initiatives to dredge the riverbed in some areas in order to remove the toxic sludge and industrial and domestic waste accumulated due to many years of neglect. But there are concerns that if the source of the pollution –industries located along the riverbanks, garbage dumped by Dhaka City Corporation (DCC) and untreated human waste discharge are not controlled, the dredging might accelerate the contamination of ground water in the area. There is also a plan to divert water from upstream rivers to increase flow and remove polluted water away from the city, and allow navigation during the dry months.
4. Urban planning and heritage protection – Ongoing since 2003, the Dhaka Tannery Estate Project (DTEP) aims to relocate all tanneries from the riverfront. Tanneries, discharging about 22,000 cubic meters of toxic liquid waste into Buriganga, are considered its biggest pollutants. It is hoped that their removal will improve the water quality significantly.

Most activities on the protection of cultural heritage in Old Dhaka are limited to documentation and awareness creation. The most significant attempt to conserve architectural heritage, incidentally on the waterfront, was that of Ahsan Manjil, restored in 1992. But there has been no attempt to conserve other heritages of the area including some historic quarters, and adopt new uses.

7. Discussion and Recommendation

Like many riverfront cities in South Asia, Old Dhaka is a continuously-lived bustling place with rich cultural heritage. This warrants an approach considering both tangible and intangible heritage in development planning for the area. Discussing a similar situation in India, authors in [5] pointed out why the revitalization of Gomti riverfront in Lucknow needed to take an approach that goes beyond [building] conservation, and allowed multiple

connections between the built and other forms of tangible expressions of cultural heritage and intangible heritage with the landscape. The notion of Historic Urban Landscape (HUL), UNESCO defines HUL as “the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of ‘historic centre’ or ‘ensemble’ to include the broader urban context and its geographical setting” [34]. a concept promoted by UNESCO, also suggests a similar approach to historic area conservation.

Conservation of HUL emphasizes on retaining or re-establishing the significant qualities of and the relationships between the historic, cultural and natural elements; rivers are often dominant elements of this. It is necessary to understand the traditional connection between a river and the built and cultural environment close to it to preserve such relationship. Waterfront regeneration attempts to reconnect the waterfront to the life of the city by making them physically, visually or psychologically accessible by providing social and cultural attractions along it [16]. But author in [33] highlighted that such attempts are not necessarily based on the historical relation between the different elements. While it is possible to achieve the conservation objectives through waterfront regeneration, unless HUL is integrated into such projects, the attempt may end up obliterating many of the historic relationships between urban dwellers and nature. Connectivity, a key measure of built environment’s connection with the river, makes the city attractive and livable to a wide range of residents [16]. Various professionals like conservationists, cultural historians of urban rivers, ecologists, environmentalists, hydrologists, urban designers, urban planners, and his colleagues mention the need to understand the connection of a river with various dimensions of its natural, cultural and social settings. Author in [16:480] Summarized this sense of connectivity and its multi-dimensionality by using a Russian example:

“Ecological connectivity attracts human settlement; hydrological connectivity ensures interchange among ethnic groups; and changing political realities dictate a range of propagandistic uses for the junction, from promoting trade and assimilation to defining territorial borders and, ultimately, forging symbolic connections between this geographically marginal but historically vital site and the heart of the Russian state”.

Rather than protecting only historic buildings on the waterfront, conservation of historic urban waterfronts requires a holistic and multidisciplinary approach where all stakeholders and related professionals work together to ensure all forms of connectivity that makes the waterfronts special are revived, retained or enhanced. The same approach can be applied to the case of Old Dhaka waterfront.

7.1. Recommendations

Dhaka could be a livable city by responding to its geography and hydrology as author in [45] wrote, sustained by due respect to its built and natural environment and heritage. This recalls the memories of the city with promenades, and installs a ‘future’ exploiting the potential of its cultural heritage and natural resources. Authors in [54] gave a water urbanism based development framework for the city, revitalizing the riverfront by using its natural resources, reviving the historical relationship with the river, and making it mobile and connected, ecologically sustainable, culturally authentic, and vibrant. It should also stop encroachment and incorporate the existing commercial, manufacturing and agricultural activities into more eco-friendly development.

The historic waterfronts are deteriorating due to the lack of management. Indifference to environmental qualities, negligence in enforcing environmental laws and regulations, lack of understanding of quality of life, incompetent urban management, etc., are a few of many problems that have made the current management regime ineffective. It therefore requires an overhaul to sustain the conservation of Old Dhaka waterfront. Experiences from other historic urban areas show that proper urban management is very difficult without the participation of the local population. The factors below could be considered for effective riverfront regeneration in Old Dhaka and to enhance the QOL of the residents.

a. Connectivity: To reconnect the waterfront to Old Dhaka residents, the historic, ecological, economic, cultural and physical connection of the river with the residents, and its potential current roles have to be understood. The Buriganga connects the city with its south side and the rest of the country, playing an important role in transportation and trading. Though the expanding land transport network have reduced the importance of water-based transportation in the country, the historic role of waterways can be re-established in this riparian landscape by developing alternative water-based transport system, such as the Dhaka Circular Waterway Project that created a water route encircling Dhaka. Multiple benefits of waterways include: a transport mode fitting the topography that can reduce pressure on land transport, improve the drainage system, reduce pollution and provide an integrated waterfront [45]. The reconnection of the water with the people will also reorient the city towards the river, ensuring attention to its condition.

b. Accessibility: Authors in [10, 45] mentioned two other important factors in connecting the waterfront to the residents— access to and the quality of the waterfront. The first may mean making the water's edge physically connected to the waterfront quarters, making the river visible from various locations within the city, and/or the residents perceiving the river accessible. To make the Old Dhaka waterfront accessible to its residents, it is important to apply all three ways, and establish the riverfront as a destination for social and cultural activities of everyone. Pedestrian paths, bridges, transit linkages, parks, vista, etc., restriction on heavy vehicle movement on the waterfront, land use for appropriate community activities, riverfront facilities for social interaction, retaining traditional use of the river including the religious ones, and development control to maintain or enhance river views could revive pedestrian scale of Old Dhaka. While much of these measures can augment psychological access, it will not be able to attract the residents unless the river water quality is improved. Therefore, a healthy river should be maintained by removing or treating all sources of pollution, improving the natural environmental quality along the river, and ensuring a balanced ecology.

c. Heritage conservation: Community spaces can be created along the waterfront and the place reconnected to its roots by conserving the historic waterfront buildings and reintegrating them with their natural and urban settings. This enhances the sense of continuity and identity, which in turn lifts the sense of wellbeing. Conservation of cultural heritage of a place will lead to better care of one's own environment through social engagement. However, as discussed earlier, conservation of HUL requires an understanding, and the maintenance or reestablishment of the connections between various natural (river and topography) and cultural (architecture, urban fabric, traditional activities, etc.) elements. Otherwise the consequence of a monument-centric approach may lead to a monumental past— individually conserved buildings with little or no connections to their settings, an empty past— conserved places with no contemporary use, or a simulated past— imitation of the past with no cultural value [55]. Reference

[8] provides examples of projects worldwide where conservation of cultural heritage in waterfront regeneration was limited to adapting commercial use of some historic buildings only. Displacing of traditional waterfront activities made these projects economically and socially unsuitable for the original residents. Hence ensuring the continuity of such activities and controlling gentrification would be a challenge of waterfront conservation in Old Dhaka. Amenity provisions and new uses of historic buildings will have to serve the community first. Riverfront preservation should focus on creating livability by retaining and enhancing the beneficial activities and spaces without excluding storage, inland transport, wholesale markets, workshops and low-income housing, etc. Dhaka's heritage is rooted in its urban spaces, architecture and cultural practices. The distinct dense and rich tissue of Old Dhaka, scale and nature of public and private spaces, the intricate network of roads, alleyways and built forms, and rich architecture, can be used to improve the livability, by promoting and using proper conservation and restoration, and by ensuring or improving their visibility and accessibility. Riverfront planning entails regulating diversity of functions with policy to encourage multiplicity of functions and participative activities [56]. Such mixed-use should provide an effective line of defense for conserving the riverfront and make proper reuse of heritage elements—a component of the area's quality of life, fostering the well-being of residents and visitors [57].

d. River protection: As Dhaka's heritage also comprises the topographical features structuring the unique morphology, this needs to be recognized and protected against the negative effects of urbanization. The non-articulated edges between the rivers and the city could be exploited to make it livable, integrating the normative values of environmental protection, flood control, transport and production facilities, recreational and visitor offerings, and public health and amenity. The reinvigorated river could become the sustainable life-blood while the regenerated riverfront heritage could offer amenities to the whole city.

e. Community participation: Any conservation-regeneration project in a living city has to accept its dynamics as 'open text.' This means greater involvement of the local people who can protect the heritage, especially when "problem defined by the political actors were misaligned with the community's needs" [9]. Reference [58] found that in many countries, conservation with no matching social action put the monuments out of circuit risking survival. Centralized control withholding power is unresponsive to community needs or its participation. The government should rather place legal measures, guidelines and incentive for the community, private capital, and the activists to create a congenial environment. Globally the community initiatives and activism have advanced the cause of conservation by complementing governments; such partnerships have sustained conservation projects [59]. Therefore, for sustainable conservation of urban heritage, people and private voluntary and community based organizations must be empowered and facilitated to participate in the conservation process. Participatory planning process opens new perspectives for strengthening the social fabric that allows ordinary people to improve quality of life. Participation ensures control over allocation of project resources and mobilization of community resources for development; it is also important for implementation, monitoring and evaluation of project activities. However, people will not commit to a program that may be seen detrimental to their own interests. And without a community ownership, conservation of urban heritage may not be sustained. Reference [60] showed that Old Dhaka residents were generally willing to contribute time and money to clean up the river. In Old Dhaka, where community feeling is very strong and with a tradition of community management of neighborhood matters, involving the local residents in the management of the historic waterfront in Old Dhaka should not be a problem [61]. However, an absence of a proper government mechanism to involve the residents in

such matter needs to be addressed before such participation can become meaningful.

8. Conclusion

This paper looked at the possible impact of waterfront conservation on the QOL in Old Dhaka. It is argued that despite the loss of many environmental and cultural qualities of the waterfront due to poor urban planning and management, the revival of historical connection between the Buriganga River and the local residents through the waterfront's conservation will improve the physical environment of the area, and provide the residents a much-needed breathing space nearby. This needs to integrate the spatial and social assets to retain and augment its splendor and heritage, enhance its topographical wealth, strengthen its economic base, protect the environment, and thus improve quality of life. Waterfront conservation will accommodate urban and community activities, facilitate mobility, harmonious living and amenities of a modern city, and protect the water and heritage resources from destruction. The social interaction spaces in Old Dhaka have dwindled considerably in the last few decades because of unregulated growth and encroachments. With little public space left in the highly dense Old Dhaka, the waterfront can provide for social interaction and recreation space. As increased and enhanced opportunities for social interaction and recreation help improve psychological wellbeing directly related to the quality of life experience of the residents, the conservation of the historic waterfront in Old Dhaka will no doubt improve the quality of life of the residents. Although it is possible that the conservation of the historic waterfront in Old Dhaka may or may not have significant effect on the other key factors that also affect the quality of life experience, e.g. the sense of security—both personal and economic, health, equity, etc. But that historic waterfront conservation should focus on the improvement of the quality of life of the people and that the improvement requires a holistic and multi-disciplinary approach can bring positive changes in the approaches to problem solving in Old Dhaka. This understanding can also be extended to waterfront regeneration in other historic cities in a similar socio-economic context as the issues are also similar in such places.

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