CONSERVATION OF HISTORIC WATERFRONT TO IMPROVE THE QUALITY OF LIFE IN OLD DHAKA

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Keywords
- heritage;
- liveability;
- quality of life;
- urban waterfronts

Abstract
Liveability of a city is related to the quality of life (QOL) assessed by the impact of the quality of physical environment on liveability and the role of recreation in psychological wellbeing of individuals. Like in major Asian cities, the historic waterfront and architectural heritage of Dhaka are important components of the fabric. Despite diminution, it continues to affect the social life of Old Dhaka residents. In recent years, protection of the waterfront from illegal encroachment and pollution has become a major concern, amidst a lack of understanding of the river’s role in improving the QOL of the waterfront residents and the role of community involvement. By comparing waterfronts in similar contexts and through literature review and observations, the authors investigate how the conservation of the historic waterfront can contribute to the improvement of quality of life in Old Dhaka, and suggest ways to protect the riverfront with this objective. Seeing waterfronts as products of human intervention into nature, this paper discusses the socio-political forces that shape this, and investigates how conservation of the historic landscape can improve the QOL of the nearby residents. It uses a case study approach based on documentary research, unstructured and nonparticipant observations, and interviews with community leaders, environmental activists and local bodies.

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INTRODUCTION

The historic relationship between a city and the water is being altered by urbanisation, new modes of transports, technological advances and economic changes. Port and industrial functions on many historic waterfronts are now extinct, making the areas derelict (Corcoran et al., 2013; Galland & Hansen, 2012; A. Jones, 1998; Oakley, 2011). But as Nagpal and Sinha (2009) observed, urban waterfronts in many developing countries became continuously-lived, high-density, mixed residential-commercial areas with poor infrastructure and amenities. Such waterfronts pose different kinds of challenges to conservation. In the former, dealing with the functionally obsolete structures and spaces is a challenge. Elsewhere, improving the living conditions while ensuring cultural continuity amidst developments is a bigger challenge. Except for a few (Hoyle, 2002; Latip et al., 2012; McCarthy, 2004; Nappal & Sinha, 2009), little research has been done on waterfront regeneration in the developing countries.

Improving the quality of life (QOL) of community is important for urban regeneration in a developing country (Serageldin et al., 2001). Encompassing various spheres of human lives, it indicates qualitative changes in the lives of the concerned people. Despite the historic waterfronts containing rich heritage, Hoyle (2000) found that such projects paid more attention to commercial interests at the expense of the community’s needs. This paper attempts to contribute to the discussions on waterfront regeneration in a developing country by presenting a case from Old Dhaka, the historic core of the capital of Bangladesh. It looks at heritage conservation as part of such regeneration, and its impact on life quality.

Bunce and Desfor (2007) argued that urban waterfronts are products of human manipulation of various natural components over a time, e.g. waterbodies, land formations and ecosystems. According to them, urban waterfront development provides examples of how material forms of nature have been transformed by a range of socio-political decisions. Hence, instead of looking at the historic waterfront of Old Dhaka as a geographic feature, this paper adopts the political ecology approach by looking into the socio-political forces that shape the Old Dhaka waterfront, and investigates how the QOL of nearby residents can be improved by conserving that. The case study includes documentary research, unstructured and nonparticipant observations, and interviews with environmentalists, community leaders and local organisations.

HISTORIC WATERFRONT CONSERVATION

Urban waterfronts have historically been the meeting points for people for trading, religious and transportation purposes. In many cultures, rivers have an important place in the people’s lives. Strong associations between water and religion, especially in Hinduism, exemplified by the riverfront cities, e.g. Varanasi and Mathura, show the influence waterfronts have on the lives of people. Although it is less spiritual than utilitarian, rivers have important roles in the Muslim-majority places too. Unlike Varanasi and Mathura, where religious structures dominate the waterfronts, the Lucknow waterfront is a mixture of residences, cremation ghats (decks), and open recreational spaces (Nagpal & Sinha, 2009).

Waterfront projects often deal with physical and economic development of derelict waterfront districts; though they may involve some form of architectural conservation, that is not a major objective of these projects. Many such western projects in the 1980s and 1990s included conservation of architectural heritage to create new social facilities, expand employment and provide a foundation for the environmental, economic and social regeneration of many urban areas (A. L. Jones, 2006). Recent projects demonstrated how
waterfront regeneration creates new leisure and tourism opportunities (McCarthy, 2004). According to Gospodini (2000) quality of file:///D:/collected paper/paper collection/waterfront/ujjain ghats.htm - hit26#hit26urban space is a prerequisite for economic development of cities; and regeneration projects are a means to achieve that.

But Gunay and Dokmeci (2012), A. Jones (1998) and A. L. Jones (2006) were concerned with standardised design, commercial goals overriding community needs, displacement of traditional water-front activities, and conflict between local residents and new developments. The first three concerns are critical where historical and cultural significance are evident in various tangible and intangible manifestations of unique qualities. The socio-cultural and aesthetic values of the city were not addressed in many riverfront constructions (e.g., in Amsterdam or St. Petersburg). These altered the natural ecology, and disrupted historical human interactions with the waterfronts. However, the Thames Embankment project showed that these could increase people’s “cognitive connectivity” despite physical separation (May, 2006).

In the US, waterfront regeneration projects focussed on rehabilitation and redevelopment consisting of a mix of residential, recreational, commercial, service and tourist facilities (A. L. Jones, 2006), driven by real estate. Projects like the London Docklands, the Sydney Darling Harbour or the Lambton Harbour in New Zealand are some of the examples of this mode (A. L. Jones, 2006). These thriving ports or docklands decayed or subsequently became derelict with the change in economic situation and new developments. The solutions the western projects sought were suitable for those contexts with main functions ceasing where conservation of cultural heritage was limited to the adaptive re-use of some historic structures without respecting their surroundings.

Economic considerations were one main driving force for waterfront regeneration in the developing world too. But these were boosting economy with tourism, not real estate (McCarthy, 2004). However, as Hoyle (2002) pointed out, despite their intrinsic motivation, many waterfront projects in Africa and Asia, e.g. the Stone Town (Zanzibar), Lamu Old Town (Kenya), Medina of Essaouira (Morocco), Hoi An (Vietnam), and Melaka and Georgetown (Malaysia), focussed on cultural heritage conservation, and became UNESCO World Heritage sites. With fast growth in Asia, many cities revived their historical connections with the waterfront, protected their architectural and urban heritage, improved the physical environment and infrastructure, and provided the community with economic opportunities. While the waterfront World Heritage sites are good examples of such conservation efforts, none of them started with a regeneration target; the relationship between waterfronts and their associated urban cores made that essential.

Once-polluted Singapore River was restored in a decade-long facelift in the 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. Motivated by conservation and tourism gains, Singapore eschewed the economic forces that marginalised the local identity (Chang, et al., 2004). Chinese coastal cities having rapid economic transformation have also renewed their waterfronts. In Shanghai, economic plans were incarnated in planning to attract investment (Wu, 2000). Similarly Hong Kong’s ‘redevelopment, rehabilitation, preservation, and revitalisation’ scheme continues efforts to redevelop the Victoria waterfronts against demolition to build high-rises (Rahman, 2010).

Urban densification advancing sustainability by minimizing infrastructure cost, energy consumption and fuel emissions have intensified the planning and building of near-core waterfront areas, and provided justification to ‘redevelop’ them. Such projects with social impacts, involving complex and contradictory issues and pressures of different actors and views, are...
Increasingly influencing urban politics. Multifaceted waterfront redevelopment features heritage conservation, environmental awareness, water clean-up, redeveloping rundown areas, restoring houses, upgrading infrastructures, creating public spaces, and promoting culturally compatible tourism (Sairinen & Kumpulainen, 2006). By bringing citizens and visitors back to the water's edge, many revitalised waterfronts provide a tangible sign of the continuing vitality. Hoyle (2002) suggested integrating these with the whole city's context and needs. Key issues include promoting the waterfront as a central rather than a peripheral component; developing infrastructures, human capital and mixed land and water uses, including leisure activities: all are attributes of quality of life.

QUALITY OF LIFE AND HISTORIC URBAN LANDSCAPE

Pickett and Cadenasso (2008) showed that nature in cities contributes to better quality of life. Also the physical and psychological wellbeing of the residents is related to the quality of a physical environment (Berke et al., 2007; van den Berg et al., 2007). “Liveability” depends on the level of QOL as experienced by the residents. According to Timmer and Seymore (2005), it is directly tied to the city aesthetic- the public squares, the neighbourhoods, street network, the architecture, the open spaces and landscaping, which create the identity and communicate the essence of the city.

Economist Intelligence Unit (2005) based QOL Index 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 (2010) use indicators developed by others. A look into these reveals that though the quality of life depends on many interdependent factors, the general sense of wellbeing influences the perception the most.

A liveable community is socially inclusive and focuses on environmental preservation. ‘Liveability' ranges from the aesthetics to economic revitalisation (PLC, 2005), and entails urban design, environmental quality, and human and economic development. Though this focused on reclaiming the economic and social centrality of downtowns, criticisms of socially deadening, poorly designed and environmentally destructive urban sprawl and the destruction of wetland started in the 1990s. Such ecological restoration and environmental rhetoric of liveability authenticate developments and allay fears of the loss of ‘nature’ and ‘community'. Urban political ecology presents a scope to consider a more nuanced analysis of waterfront regeneration beyond a reason for gentrification. Preserving and enhancing the liveability of a place has been seen as a way to retain people near it (Buchwald, 2003).

Quality of life experience by residents is influenced by their psychological wellbeing too. Bradburn (1969) found that social participation has a positive impact on the psychological wellbeing of community members. Thus public spaces for social interactions play a significant role in enhancing the QOL experience, and help maintain a healthy public life, enhance familiarity with local places and people, and provide opportunities to interact with neighbours and local organisations. Social interactions can also contribute towards achieving and maintaining diversity and harmony within a mixed-culture society by providing scope for interaction between communities, enhancing social cohesion and maintaining community identity.

These collectively can also enhance community members’ sense of wellbeing. The intimate scale of historic quarters and traditional meeting points supports such interactions. This is emphasised in The Valletta Principles for the Safeguarding and Management of Historic Cities and Towns and Urban Areas: “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 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 (ICOMOS, 2011, p6).

**WATERFRONT HERITAGE, SUSTAINABLE DEVELOPMENT AND QOL**

Development has to improve the quality of life to be sustained (Newman, 2004). The governments striving to improve quality of life with sustainable development strategies must recognise the value of historic buildings, and encourage their conservation. By contributing to wellbeing and quality of life, heritage helps mitigate the impacts of cultural globalisation, provides impetus for sustainable development, prevent globalisation, sustain diversity, and make economic development (Gražulevičiūtė, 2006; Heritage Counts, 2003, Luxen, 2012). Thus its conservation can be used to maintain and enhance cultural values, not only economic benefits. Reviving historic quarters can be a strategy to improve inefficient developments, neighbourhoods without identity, and worsening life quality. As conservation contributes to improve citizens' quality of life, and provides a social justification, institutions like the World Bank or the European Union agreed to fund conservation of historic neighbourhoods.

Characteristic features of each community reflect diversity and identity of the place and a sense of belonging, loss of which is a major concern in sustaining communities and historic environment. The ongoing privatisation and commercialisation of historic environment and public space erode neighbourhoods and communities, and deteriorate quality of life (Gražulevičiūtė, 2006). A broadened notion of sustainable development acknowledges the importance of non-economic aspects like functional sustainability of public infrastructure, the fiscal sustainability of local government, physical sustainability of the built environment, and cultural sustainability of local heritage (Gražulevičiūtė, 2006). Therefore, sustainable development must protect and rehabilitate ecological systems, improve economic efficiency, and enhance the wellbeing and cultural diversity of the population (Pepper, 2006).

Gražulevičiūtė (2006) determined wellbeing by senses of place, identity, evolution, ownership and community. As heritage shapes them - creating the sense of belonging, of social traditions and of cultural identity, of historic continuity, and fosters ownership and responsibility - the UK adopted conservation as an important strategy for meeting sustainability targets (Heritage Counts, 2003). It established indicators like the number of buildings at risk against which progress towards sustainability is measured; this involves fostering local distinctiveness and sustaining cultural heritage. Another strategy is the Community Plan that lists requirements like a sense of place, a safe and healthy environment with public and green spaces, and a diverse vibrant and creative local culture bringing community pride and cohesion (Heritage Counts, 2003).

Mills and Young (2009) found a strong link between heritage and individual and community wellbeing as people that live near conservation sites benefit. Britain Thinks survey found 80% acknowledging conservation improving their life quality, and 50% rating the impact heritage sites have on their personal quality of life at least 7 out of 10. The transactional and emotional impacts bring people together and improve their perceptions of quality of life. Across the UK, museums and heritage sites participate in improving health and wellbeing, involving mainly families and including all age groups (Atkins, 2016). There are also areas of common interest that encourage collaboration among community organisations, charities and residents’ groups, enhancing cohesion and social wellbeing, and thus contributing to quality of life (Museums Association, 2017). Moreover, an increasing heritage awareness among the

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lower socio-economic groups and minorities is causing the class gap to drop (Heritage Lottery Fund, 2017).

Samant (2004) found pollution and crowding as pre-eminent concerns of waterfront residents in India where absence of adequate and quality public space is an environmental and health necessity that severely compromises the quality of life. He suggests regaining valuable waterfront by preserving existing traditions and reusing historic buildings. One main task of Social Impact Assessment of such projects is to predict changes to the nature and welfare of a community, by enquiring if the projects would generate segregation and gentrification, and its contribution to improving the life quality (Sairinen & Kumpulainen, 2006). Projects also aim to increase public accessibility, remove barriers, resolve traffic and parking problems, allow all to make use of the recreational potential, increase public participation, and enrich people’s perception and experience.

Heritage conservation generated tourism can also be used to increase residents’ quality of life and satisfaction (Myunghee, et. al, 2016). In addition to economic benefits, these affect residents’ wellbeing, measured by a variety of factors like satisfaction, perceived quality, life domain, happiness, etc. (Sirgy, et. al., 2010). A high quality of life increases residents’ positive attitudes toward tourism, which can make sustainable economic and social contributions to the community. The link between tourism and waterfront redevelopment in advanced countries show that while the promotion of the first is an effect of the later, the growth of recreation and tourism industries can in turn instigate waterfront redevelopment (Hoyle, 2002). For many such cases in the developing world, improvement of the quality of urban space and life is a prerequisite to restructuring services towards tourism. This has been reflected in the efforts many cities made to redesign and redevelop decaying waterfronts.

Conservation of historic waterfronts encompasses human development, income, funding, education, training, open information, multi-disciplinary collaboration, resource management, and participation by decision makers and people (Jokilehto, 2010; UNESCO, 2011). The Nairobi Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas recognised the irreplaceable context of historic urban areas and their surroundings where activities are an essential element. New urban spaces evolve by transforming historic areas; conservation refers to this to consolidate citizenship and pride and ensure belongingness. It injects new use, and 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 wellbeing by preserving local resources and ecosystems. Sustainability as a conservation and regeneration goal can multiply benefits over time.

THE HISTORIC WATERFRONT OF DHAKA

Dhaka, a major urban centre at the convergent of two large rivers— Buriganga and Shitalakhya (Figure 1), rose to prominence by becoming the capital of Bengal— a Mughal province, in 1608. During the rule of Shaista Khan (1662–79), it grew to a million people over 160 km² (Taifoor, 1965). The city started to decline when the capital was shifted to Murshidabad in 1713. Bradley-Birt (1906) mentioned of apathy in dwindling trade, ruination of once splendid houses and factories, and demise of textile sectors. By 1828, Dhaka’s area shrunk 16 times and the population 21 times (D’Oyly & Landseer, 1830). With the establishment of railway linkages in 1888, Dhaka started to re-emerge as a centre of trade, industry, education and culture.
Between 1905 and 1912, Dhaka was made the capital of the new province of East Bengal and Assam. It started to set up civil lines, parks, avenues, and bungalows on the city’s northern outskirt (Figure 3); the expansion away from the river still continues. After the British left India in 1947, Dhaka became the capital of East Pakistan, which emerged as the sovereign country Bangladesh in 1971. Currently more than a million people live in Old Dhaka on only 7% of the city’s area at three times the density than rest of the city; it is one of the most crowded areas in the world (Barnett et al., 2005).

Pre-Mughal Dhaka consisted of caste-based mahallas (quarters) and bazaars. Houses had front entries from cart roads and service entries from water bodies at the back (Rahman & Haque, 2001). The long narrow shop houses and houses facing inner-courtyards generated a dense form with intimate social spaces. The winding galis (lanes), often ending at the riverfront, created street level social spaces. The mohrs (nodes) and sudden widening of the galis due to placing of built masses were the hangout spaces for all ages (Khan, 1985). Chawks (squares) were the larger social gathering and festival spaces (Ferdous & Rahman, 2016). This pattern linking the courtyard, galis, morhs and chawks still characterises the socio-cultural spaces in Old Dhaka (Figure 3).
Islampur Road is the oldest major street that crosses east to west in parallel to the river (Figure 1). Royal, civic and religious structures—some are now conserved, were built along this road (Figure 4 & 5). Tavernier and Ball (1889) noted that Dhaka extended in breadth as luxury houses lined up the river—a sought-after area in the city that provided a magnificent view from and towards the city. Ghats, significant transitory spaces between the river and the land with commercial, social and religious roles, were the wholesale places of primary
produce, embarkation docks, and sacrificing and cremation points. Diversified formal and domestic activities and regular and seasonal rituals evolved around the river, making sense of the water-oriented morphology (Ashraf, 2010).

Before Dhaka’s northward growth had started, many civic, administrative and educational buildings were already built within the old city core, along the river bank, or by converting 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 mid-19th century, waterways around Dhaka, vital for mobility and natural drainage, provided ecological and recreational spaces. However, haphazard growth of the city led to reduced dependence on the waterways in Dhaka (Ahmed, 1986). Over the
years, constricted Buriganga provided new lands along its bank. Informal low-income settlements and small and informal businesses were set on these and on land reclaimed illegally (Figure 6). Furthermore, a dyke constructed along the river’s edge in the 1990s connected the city’s northwest and the south-western part. Hossain (2013) pointed out that it severed the visual linkage to and from the river, restricted access, and broke the historical relationship of the structures with the river.

CURRENT STATE OF THE HISTORIC WATERFRONT

Independence in 1971 brought expansion pressure on land and other infrastructure. According to Mahmud et al (2011), about 18.72 km of water channels and about 76.67 km² of wetland were lost during 1978-2009. Islam (2009) showed that the rate of loss of wetlands (502.5 hectare/yr. during the 1989-99) increased fourfold in 1999-2005. Zoning based city planning did not consider the water bodies that once provided natural drainage and transport corridors, threatening the survival of water and heritage resources. Illegal reclamation of new land, limited access to the riverfront and absence of 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 (The Daily Star, 2010). Yet Buriganga, the 500 metre wide river with a 20-km long bank along the city, maintains a communication with southern Bangladesh, houses various economic activities, and provides an identity to the locals.

Old Dhaka is facing physical deterioration, densification leading to scarcity of open areas, and gradual un-liveability. It's civic and service amenities are over-stressed, and the narrow winding streets are choked with pedestrians, animals and vehicles (Johnson, 1975). Many of the heritage structures are in a dilapidated state because of lack of maintenance or abuse. The riverfront, which had been a place for recreation and festivity, is now encroached upon by warehousing activities and parking of goods carriers; it is also used for dumping commercial waste and building shanties on bamboo stilts. Low-rise residences and business establishments are transformed into multi-storied structures (Mahmud & Rahman, 2016). Consequently, the recognisable social spaces, and patterns of interaction, entertainment and mobility, have changed significantly (Ferdous & Rahman, 2016). Yet, Old Dhaka is preferred by economic migrants searching cheaper accommodation in dilapidated buildings and easy jobs in manufacturing and river-based activities (Imam & Mamoon, 1993).

The Old Dhaka has lost many of its valuable urban spaces; most of the historic structures are either in poor physical state, or have been lost completely. Direct access to many of them from the river is no longer possible. Two most important open public areas—Chawk Bazaar (Mughal era) and Victoria Park (British era), were directly connected to the river. Many of them also had surrounding gardens enhancing the liveability of the area in the past. However, most of them have been encroached upon by contextually unfit structures and uses detrimental to the heritage. Only two partially conserved open areas are around the Ahsan Manjil and in the Lalbagh Fort (Figure 5).

**APPROACHES TO OLD DHAKA’S WATERFRONT PROTECTION**

Old Dhaka has been long associated with the river that increased its connectivity, and provided a breathing space. It faced the river with prominent structures located on its bank. But the city's growth away from the river, increased commercialisation of the area, dilapidation of existing amenities, and undesirable development and encroachment on the waterfront allowed by weak governance, reduced Old Dhaka’s attraction (Mahmud & Rahman, 2016). Thus the highly polluted and inaccessible waterfront is significantly affecting residents’ physical and psychological connections. These negative developments permeated into the nearby city areas too. Four different types of fragmented and piecemeal attempts were made by non-governmental organisations (NGOs), government departments and the civil society to address these multi-dimensional and interconnected issues.

1. **Awareness creation to the protection of the river** was the most prevalent form. Led by environmental activists or NGOs, e.g. Bangladesh Paribesh Andolon (BAPA), Paribesh Bachao Andolon, Dhaka Nagorik, etc., the main aim of actions, e.g. rallies and seminars, is to create public awareness and draw the government’s attention to the problems associated with pollution and encroachment. These activities achieved some of their objectives and led to below actions.

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 (HRPB), forced the government to take up 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 involved in these. In the absence of a proper administrative framework and a
management regime, the success of these programs has been short-lived, though produced visible and positive results; many cleared up areas were re-encroached.

3. Technological solution—BIWTA dredged the riverbed in some areas in order to remove the toxic sludge accumulated due to many years of neglect. But if the pollution sources (industries located along the riverbanks, garbage dumped by Dhaka City Corporation, and untreated human waste discharge) are not controlled, the dredging will accelerate the contamination of ground water in the area. There is also a plan to divert water from upstream rivers to increase flow and depth, and flush away the polluted water.

4. Urban planning and heritage protection—Ongoing since 2003, the Dhaka Tannery Estate Project aims to relocate all tanneries from the riverfront. Tanneries, discharging about 22,000 m$^3$ of toxic liquid waste into Buriganga, are considered its biggest pollutants. It is hoped that their removal will improve the water quality significantly.

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

**DISCUSSION**

Old Dhaka is a continuously-lived bustling place with rich cultural heritage. This warrants an approach to tangible and intangible heritage in development planning for the area. Discussing a similar situation in India, Nagpal and Sinha (2009) pointed out why the revitalisation of Gomti riverfront in Lucknow had to go beyond conservation of buildings, and allowed multiple connections between the built and other forms of tangible expressions of cultural heritage and intangible heritage with the landscape. The UNESCO-promoted notion of Historic Urban Landscape (HUL)\(^1\) emphasises on retaining or re-establishing the significant qualities of and the relationships between the historic, cultural and natural elements of an urban area.

Rivers as such elements are a dominant component of this; the traditional connection between it and the built and cultural environment has to be preserved. To regenerate waterfront, it has to be reconnected to the city life by letting physical, visual or psychological access to the residents and by attracting social and cultural activities (May, 2006). But such attempts are not necessarily based on the historical relation between the different elements highlighted by Jokilehto (2010). While it is possible to achieve the objectives of the HUL conservation through waterfront regeneration, it may end up obliterating many of the historic relationships between urban dwellers and nature unless such projects adopt the concept.

Connectivity is a key measure of built environment’s relationship with the river that makes the city attractive and liveable to diversified residents (May, 2006). Professionals other than conservationists, like cultural historians, ecologists, environmentalists, hydrologists, urban designers and urban planners, also consider understanding the connection of a river with

\(^1\) 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” (UNESCO, 2011).
various dimensions of its natural, cultural and social settings. May (2006, p. 480) summarised this sense of multi-dimensional connectivity 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 forging symbolic connections between this geographically marginal but historically vital site and the heart of the Russian state”.

The conservation of historic waterfronts therefore cannot be limited to the protection of only waterfront heritage architecture; rather it requires a holistic and multidisciplinary approach in which all stakeholders and related professionals work together to ensure retention or revival of all forms of connectivity that makes the waterfronts special. The same approach can be applied to the case of Old Dhaka waterfront.

**Key Considerations**

Dhaka could be a liveable city by responding to its geography and hydrology, sustained by due respect to its built and natural environment, and heritage (Ashraf, 2010). This recalls the memories of the city with promenades, and installs a ‘future’ exploiting the potential of its cultural heritage and natural resources. Rahman and Ara (2016) suggested a framework for the city’s development that focuses on its water urbanism to revitalise the riverfront by using its natural resources, reviving the historical relationship with the river, and making it connected, ecologically sustainable, culturally authentic, and vibrant. It should also stop encroachment and incorporate the existing commercial and manufacturing activities into more eco-friendly development.

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

**Connectivity:** To reconnect the waterfront to Old Dhaka residents, the ecological, economic, cultural, historic, and physical connection of the river with the residents, and its potential roles, have to be understood. The Buriganga is still playing an important role in transportation and trading, connecting the city with its south side and the rest of the country (Latip et al., 2012). Though the land transport network has reduced the importance of water-based transportation in the country, the historic role of waterways can be re-established in this riparian landscape by a well-developed water-based transport system. The multi-dimensional benefits of waterways include: a transport mode fitting the topography that can help reduce pressure on land transport, improve the city’s drainage system, reduce pollution and provide an integrated waterfront (Ashraf, 2010). The reconnection of the water with the people will also reorient the city towards the river, ensuring greater attention to its condition.

**Accessibility:** Access to and quality of waterfront are two other important factors in connecting the waterfront to the residents (Hoyle, 2002; Ashraf, 2010). The first means making the water’s edge physically connected to the waterfront quarters, the river visible from various locations within the city, and the residents perceiving the river accessible. To achieve this in Old Dhaka, it is important to apply all three ways. Riverfront can be made a
destination to all for social and cultural activities by using pedestrian paths, vista, bridges, transit linkages, parks, etc.

A connected ambience with pedestrian access, restricted vehicle movement on the waterfront, land use appropriate for community activities, riverfront facilities for social interaction, maintaining traditional use of the river, and development control to enhance river views could revive pedestrian scale of Old Dhaka. While much of these measures can augment psychological access, unless the river water quality is improved, it will not attract the residents. 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.

**Heritage Conservation:** One of the ways of creating community spaces along the waterfront and reconnecting the place to its historic roots is to conserve the historic waterfront buildings and reintegrate them with their settings. Such conservation also gives a sense of continuity and identity, which in turn lift 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, conservation of HUL requires an understanding, maintenance or reestablishment of the connections between various natural and cultural elements. Otherwise a monument centric approach may lead to a monumental past–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 value (O’Brien, 1997).

Jones (2006) provides examples of projects worldwide where conservation of cultural heritage in waterfront regeneration was limited to adaptive reuse of some historic buildings for commercial purpose only. These projects displaced the waterfront-based traditional activities, making them economically and socially unsuitable for the original residents. Thus one of the challenges of Old Dhaka waterfront conservation would be to ensure the continuity of traditional activities and control gentrification. Provisions of amenities and new uses of historic buildings will have to serve the community first. Riverfront preservation will not mean exclusion or eviction of storage, inland transport, wholesale markets, workshops, and low-income housing. It should rather focus on creating liveability by retaining and enhancing the beneficial activities and spaces.

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 liveability, 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 (Walzer, 1995). Such mixed-use should provide an effective line of defence for conserving the riverfront and make proper reuse of heritage elements– a component of the area’s quality of life, fostering the wellbeing of residents and visitors (Mercier, 2003).

**River Protection:** As Dhaka’s heritage also comprises the topographical features forming a unique morphology, it is essential to recognise and protect the natural heritage against the effects of urbanisation. The non-articulated edges between the rivers and the city could be exploited to make it liveable, integrating the normative values of environmental protection, flood control, transport and production facilities, recreational and visitor offerings, 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.
Community Participation: Any conservation-regeneration project in a living city has to involve the local people to protect the heritage, especially when “problem defined by the political actors were misaligned with the community’s needs” (Morgia & Vicino, 2013). Holod (1980) found that in many countries, conservation with no matching social action put the monuments at risk. Rather than withholding power, the government should 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 government efforts, sustaining projects (Cantacuzino, 1990). Therefore, for sustainable conservation of urban heritage, people and private voluntary and community based organisations must be empowered and facilitated to participate.

Participatory planning process opens new perspectives for strengthening the social fabric that allows people to improve QOL. It ensures control over mobilisation of community resources and allocation of project 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 appear detrimental to their interests; and without such commitment, conservation may not be sustained. Alam (2003) showed that Old Dhaka residents were generally willing to contribute time and money to clean up the river. Engaging the local residents in protecting the waterfront should not be a problem as community feeling in Old Dhaka is very strong in examples of community management. 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.

CONCLUSION

This paper looked at the possible impact of waterfront conservation on the QOL in Old Dhaka. It is found 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 conservation will improve the physical environment of the area, and provide the residents a much-needed breathing space. This needs to integrate the spatial and social assets to retain and augment its splendour and heritage, enhance its topographical wealth, strengthen its economic base, protect the environment, all of which will improve QOL. Waterfront conservation will accommodate urban and community activities, develop mobility, harmonious living and amenities of a modern city, and protect the water and heritage resources from destruction.

The unregulated growth and encroachments in Old Dhaka have considerably reduced the social interaction spaces in the last few decades. With little public space left in the highly dense Old Dhaka, the waterfront can cater for social interaction and recreation space. As increased and enhanced scope for social interaction and recreation helps 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 key factors that 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 QOL 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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