

Lost Space Renewal; a Reborn of an Urban Water Body

¹Debsree Mandal, ²Archisman Das

¹Assistant Professor, Department of Architecture, Chittagong University of Engineering and Technology (CUET), Chittagong-4349.

²Student, Department of Architecture, Chittagong University of Engineering and Technology (CUET), Chittagong-4349.

Received 04.19.2015; Accepted 04.11.2016

ABSTRACT: Due to rapid growth of urbanization and economic demand, we are continuously losing our fields, our free lands, open sky, ponds, lakes; actually our breathing spaces. Sometimes for zoning policies, migration or transferal of a particular business or activity, a place like waterfronts, body of water, military or industrial sites can lose its importance, kept vacant and become a dead place. These are all called LOST SPACES in urban context. Renewal of the lost spaces might open up the new visions. This paper will discuss about one of these lost spaces; an urban water body and its renewal process. Under a proper design and guidelines method, a lost water body might open up the new opportunities to make the urban life more sustainable; where architecture, landscape and water can build up a synthesis. We can achieve social equity, economic progression, environmental education, vegetation as well as a breathing space for locality.

Keywords: *Lost Space, Urban Water Body, Renewal*

INTRODUCTION

Bangladesh is a country which located in the south East Asia. There are many water bodies criss-cross the land of Bangladesh. Chittagong is the second-largest city and principal port city of Bangladesh. So, because of its geographical reason, the availability of water in this area is very high. Lots of rivers, canals, ponds etc. are flowing over the surface of the whole city. The population growth rate in Bangladesh is very high. People from villages and other city areas are always coming towards the main city center for better education, income, opportunity & comfort. So the population density in urban area is increasing gradually. As a result the green open spaces and water bodies are being sacrificed as a leftover space or being filled up to full fill the demand of land for building structure. This is very alarming for an urban life. In this circumstance, the present situation of Chittagong is listed in Table 1. Due to rapid development of urban area, the proportion of public property and privatization is not always been controlled, which

Table 1. Situation of open spaces based on Chittagong Development Authority Standard, 1961 (Source: Al Mahmud,

Population	3.3 million
Area	100 sq mile
Total Open Space	200 acres
Available Open area average	0.06 acres per 1000 people
Required area average	4 acres per 1000 people

also causes some left over spaces. Whatever the reason, we called these places as lost spaces where people's accessibility is not common, has no visual or physical connection with circulation areas, people don't know about the potential of these places. Lost spaces are urban areas those need redevelopment improving the local living environment (Trancik, 1943, 3-4). Here, we select a historical DEGHI (an urban water body) named 'ASHKER DEGHI' as a lost space in Chittagong city. This paper will discuss the condition of this water body.

*Corresponding Author Email: debsree2004@yahoo.com

According to the existing site survey, this paper will find out the potentialities of this lost urban space. It will illustrate some design decision to improve the condition of 'ASHKER DEGHI' to connect it with the locality to advance the living condition.

MATERIALS AND METHODS

At first, background history and present condition of the site are studied here to understand the chronological changes of the site. The SWOT (Strength, Weakness, Opportunities, Threat) analysis is done here according to site survey. This helps to find the key points in the renewal process. Also, some case studies are given here to explore some ideas of urban renewal policy. The relative terminology will help to understand some definitions and situations for this concern.

Historical Background of the Site

At the time of the 17th century, after the win of the MUGHAL

Empire, the city called Chittagong was founded. In the early period, some DEGHI were dig by the Rulers or Royal members of the society mainly for the availability of water. ASHKHER DEGHI, KOMOLDOHO DEGHI and LALDEGHI are most famous of them.

ASHKHER DEGHI is situated in the JAMAL KHAN area in Chittagong, under KOTOWALI THANA. This DEGHI was founded by the 2nd MUGHAL RULLER of CHITTAGONG, NOWAB ASKHAR KHAN in the period of 1669-1671. The DEGHI was named according to his name. (Abdul Hoque Chawdhury, 1994) (Fig.1)

**Site Survey
 Site Surroundings and Accesibility of
 Ashkar deghi**

ASHKAR DEGHI is surrounded by both residential and commercial areas. Maximum portion of the residence groups are from middle income. (Fig.2)



Fig.1: Colored portions showing the developed areas after year 2000 (source-Google earth)

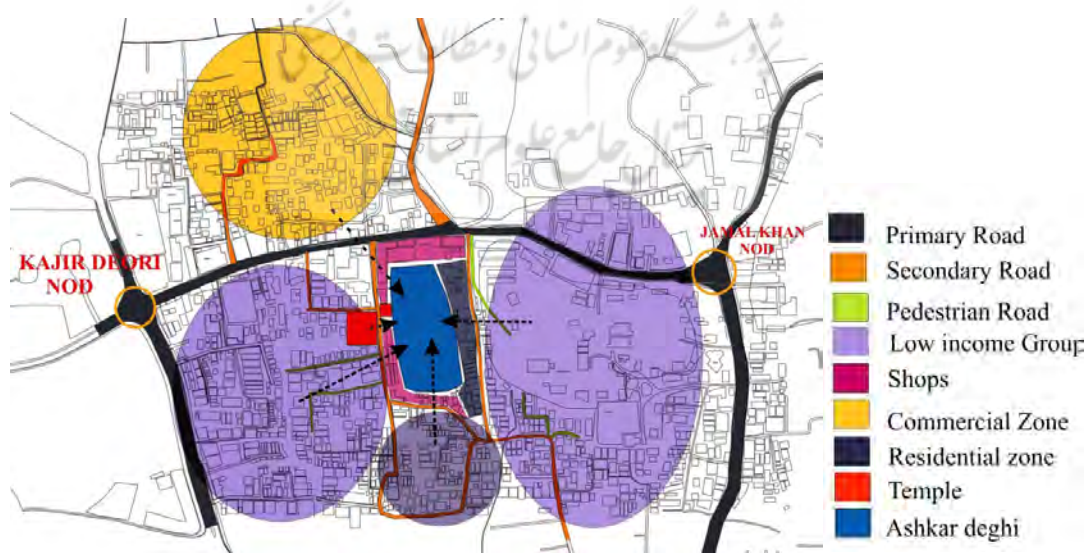


Fig. 2: Land use map of ASHKHER DEGHI

The DEGHI lies beside a busy main road connecting two important nodes ZAMAN KHAN and KAZIR DEORY. Although, visually it has a very poor accessibility for which it is hard to find out. From the main road its connectivity is closed by some furniture shops, which are mostly 1 or 2 storied high. There is also no such significant physical connection from the other 3 sides. In its west side, RAM KRISNA SEBASROM (one of the important religious structure for HINDU community) is located. From that side only one small GHAT is situated for this water body (Fig.3). The width of the GHAT is not enough, and condition is very poor because of improper maintenance and bad waste management (Fig.4). The single access is not enough for the DEGHI.



Fig.3: Temple side GHAT



Fig.4: Improper waste management



Fig.5: Water condition

Circulation Pattern

The road network around the ASHKARDEGHI can be subdivided into 2 types according to the traffic type. One is the primary road, situated at the north side of the DEGHI which connecting the 2 nodes and all types of vehicles are moves on it. Pedestrian condition beside the main road is good. Other one is secondary road, where only private vehicles are allowed. These roads are lies in the east, south & west side of the DEGHI and connecting the residential blocks to the main road.

Seasonal Load

One of the important religious structure of HINDU community of Chittagong, RAMKRISNA ASRAM is situated at the west side of the DEGHI. During the ritual programs, lots of people gather here. So, a huge number of traffic comes here and makes the west road blocked for a long time. Because of having no proper connectivity and scopes, the DEGHI space cannot be utilized for gathering people.

Condition of Water of the Deghi

As the DEGHI is visually and physically not well connected, so the condition of the water is not very good. The color, taste, odor of the water samples of the DEGHI indicates that it is now in unusable condition (Fig.5).

Analysis of Ashkher Deghi

The Analysis of Ashkher Deghi is shown in Table 2.

Case Studies

Hamarby Sjostad, Stockholm, Sweden

Hammarby Sjostad is located in the south-central inner city of Stockholm. It is situated along the lake (Sjo) Hammarby, and its name literally means 'Hammarby Waterfront Town.' HAMMARBY SJOSTAD is a great example, which shows the power of a good design to convert the urban lost space into a successful urban space.

The main character of the HAMMARBY SJOSTAD is its waterfront oriented residential block design. All the blocks

Table 2. SWOT of Ashkher Deghi

STRENGTH	WEAKNESS	OPPORTUNITIES	THREAT
-It is the only Large open space in between residential and commercial area -Close to main road -Safety and security condition of the area is good enough, because it is within a residential area. - Have a renowned HINDU religious structure	-No visibility from road -No physical accessibility from main road -only single GHAT and in very poor condition	-Have a good prospect to become a public realm space. -with community participation approach, it can be a good source of community income. -Can be used to reduce traffic load during religious festivals.	-Becomes a waste disposal space -Misuse by the lower income groups

have the proper environmental comfort like good lighting, air flow. The development was done by considering the waterfront. The water oriented design enriched the image of the whole area. By improving public accessibility, connectivity, community participation, improvement of social interaction; behavioral change is achieved. Economic development has resulted due to the design pattern. (Gaffney, et al., 2007) (Fig.6- Fig. 9)

Design Analysis of Hammarby Sjostad is shown in Table 3.

New Plymouth Foreshore

It is a Foreshore development project at New Plymouth central city, New Zealand. The city was developed in a fragmented manner and somehow neglected the sea shore. The goal of proposed masterplan was to turn the city towards the sea. (Fig. 10)



Fig.6 Birds Eye view (Source: Gaffney, et al., 2007)



Fig.7 Hammarby sjostad masterplan (Source: Gaffney,et al., 2007)



Fig.8 & 9 Development in front of water body (Source: Gaffney, 2007)

Table 3. Design Analysis of Hammarby Sjostad

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> -Easy and safely accessible streets -Various options for public transport -High quality public realm space -Natural landscaping has been used in the design of public space -Orientation to the water -Residential blocks follow Stockholm inner city standards in terms of street width, blocks and land use. -For the residential blocks main design priority is sunlight and view. 	<ul style="list-style-type: none"> -Lack of space for community purpose -Price of apartment is same as the inner city -No presence of economic heterogeneity -Less participation for desirable community

. So it proposed a physical and visual link between Devon Street (the main city street) and the city's isolated amenities and facilities including the museum, Huatoki Stream and the waterfront. The designed foreshore works as a space that can

be used recreationally and have a strong environmental flavor and connection back to the city.

(Ministry for the environment, 2015)

Design Analysis of New Plymouth Foreshore is shown in Table 4.

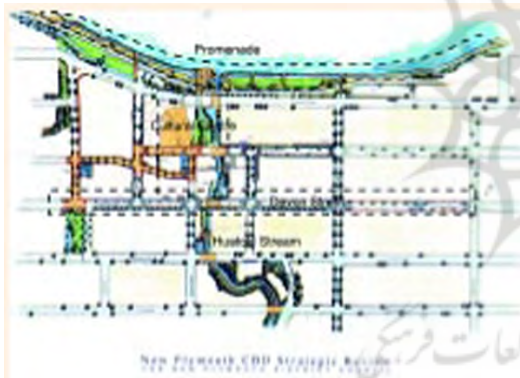


Fig.10: Mountain to sea master plan
(Source: Ministry for the environment, 2015)



Fig.11: Fore shore view

Table 4. Design Analysis of New Plymouth Foreshore (Source: Ministry for the environment, 2015)

STRENGTH	OPPORTUNITIES
<ul style="list-style-type: none"> - Providing strong linkages between existing amenities - Overcoming the constraints of existing infrastructure and development - Providing strong connections between urban and natural environments - Maximizing recreation opportunities within urban development. - The previously hidden Huatoki Stream is now a vital connection between the city and the sea. - The community pressure initially motivated the project's completion earlier than originally planned. 	<ul style="list-style-type: none"> - Opened up more for retail and other uses - Created a park outside Puke Ariki (the museum). - The promenade allows for both passive and active recreation. - Not only the traditional main street or square, but also a fore shore can be a heart of a city. - There are still a few of the pieces of the Jigsaw to put in place. The public continues to push the Council to do so." So open up community participation, day by day.

Relative Terminology Urban Renewal

Urban renewal is an urban design process dealing with physical form of urban areas. Renewal additionally focuses sometimes on economic and social upgrading with strategic physical alteration. The general characteristics are broadly similar in all renewal areas (poor physical, social and economic conditions and struggle to adapt to modern requirements and expectations). (Carmona, 2001)

Urban Waterfront Redevelopment

Water is the natural element that has attraction and motivation power for recreation and relaxation. It shapes the character of each place where it flows. From civilization to civilization it works for transportation, food supply, sanitation, industrialization and nourishment. Waterfronts are that place where water and land meet and define the history and character of a community. For a city, urban water fronts are dynamic places where integration of urban issues and conservation of waterfront biodiversity become increasing phenomena for today's world. In many cases, urban waterfront regeneration has been seen as economic beneficial, social and sustainable environmental development. (De Graaf et al., 2007; Simsek, 2012)

Recreational Space as a Third Place

Recreational or public realm spaces are very essential for any urban development strategy. But they are neglected very much in the planning process. Oldenburg (1989) introduced a new concept of third place. He terms 'first place', the home those that one live with, the 'second place' where people actually spends most of their time, the 'third place' these are anchors of the community life & facilitate and foster broader, more creative interaction. He argues that the third places are important for civil society, democracy, civic engagement and establishing feelings of a sense of place. For developing a good urban design, it is very important to consider its traditional values & scopes of developing its lost spaces. It is also very important to design spaces in more packed way, so the lost spaces can be integrated with the urban forms. (Oldenburg, 1999; 2001)

Development Strategy for Lost Space

Try to develop a place with its own identity;

That place must have attractive and successful outdoor spaces; Should work effectively for all in a society including children, elderly and disable persons;

It must have good connectivity with public, but safety issues also need to consider carefully;

That place must have good adaptability. (Memarian & Navid, 2014)

Community Participation

Community participation is very important for every successful

redevelopment strategy. In case of renewal project, involvement of public is very crucial. That will help to maintain the safety and better environmental condition. If community becomes aware of the total prospect of the site they must be tried to develop and protect it.

RESULT AND DISCUSSION

According to previous studies we are providing some design proposals for ASHKHER DEGHI to find some solutions to work as an urban water body. (Fig.12- Fig. 14)

For a successful design it is very important to make the space easily accessible for general peoples. So change the connectivity condition from the road to create an easy accessibility (Fig.12). Create some points for easy access towards the space (Fig.14). Visible connection is also an important concerning issue. Hidden space cannot always become successful public realm space.

Around the DEGHI space, a pedestrian walkway can develop (Fig.14). Around the walkway, by designing some seating arrangement, the total appeal of the space can be improved. Especially in the period of different religious ritual time, these help to reduce the pedestrian load on the main street and make the whole space more interesting.

In the east side of the DEGHI there is residences of some lower income groups. It is very important to consider them in the design. They can be easily involved to the development of the site. There is an opportunity to develop retail businesses.

Designing fishing deck around the DEGHI to introduced fishing activity for amusement would help to build up a community interaction. The money coming from this business can be involved in the development of the community.

Improve water quality of the DEGHI, to engage the community people for water collection. Thus the interaction between people can be improved and community participation can be improved to protect the water and the environment.

CONCLUSION

Renewal of ASHKAR DEGHI is not a simple urban design. The main challenge of the development is to make the people aware of the prospect of the space. For any healthy residential area it is very important to have a space where anyone can go easily and relax mind. Besides this, it is not good for any community, to develop any space by demolishing everything beside the space; not concerning the local values and cultures. A successful redevelopment can only happen, if it relates the total community and consider their values and cultures. Renewal means not destroy any objects or only gaining some refreshing space, it means creating healthy living environment, making sure the full possible uses of the existing places and its values.

REFERENCES

Al Mahmud, A. (2005). Open spaces shrink, ecology under

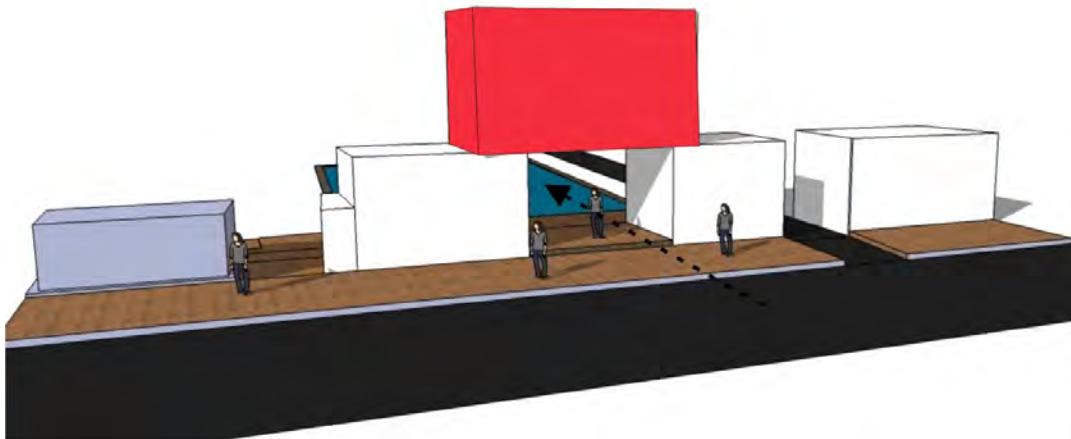


Fig.12: Connectivity from the Main Road, both visual and physical



Fig.13: Roadside elevation

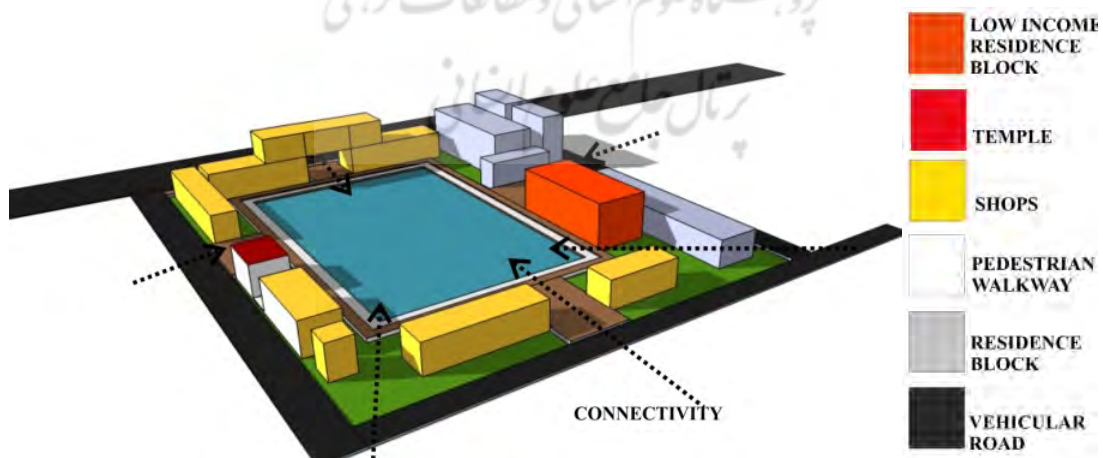


Fig.14: Conceptual Connectivity Diagram around the DEGHI

threat. *The daily star*, 5(285).

Carmona, M. (2001). *The value of urban design: a research project commissioned by CABE and DETR to examine the value added by good urban design*. Thomas Telford.

Chowdhury, A. H. (1994). Prachin Arakan Rowainga Hinda Barua Buodda Adhibashi. *Bangla Academy, Dhaka*, 30.

De Graaf, R., van der Brugge, R., Lankester, J., van der Vliet, W., & Valkenburg, L. (2007). Local water resources and urban renewal: A Rotterdam case study. In *6th International Conference on Sustainable Techniques and Strategies in Urban Water Management, Lyon, France*.

Gaffney, A., Huang, V., Maravilla, K., & Soubotin, N. (2007). *Hammarby Sjostad: A Case Study*. CP 249 Urban Design in Planning.

Memarian, A., & Navid, N. (2014). The Lost Space of Architecture in the Context of Urban Lost Space. *International Journal of Engineering and Advanced Technology (IJEAT)*, 3(5), 311-321.

Ministry for the environment. (2015). New Plymouth

Foreshore. Ministry for the Environment Manatu- Mo- Te Taiao. Retrieved from <http://www.mfe.govt.nz/publications/towns-and-cities/urban-design-case-studies/new-plymouth-foreshore>, 25th March, 2015.

Oldenburg R. (2001), celebrating the Third place, inspiring stories about the "Great good places" at the heart of our communities, Marlowe & Company, New York, USA.

Oldenburg, R. (1989). *The Sexes and the Third Place. The Great Good Place*.

Oldenburg, R. (1999). *The Great Good Place: Cafes, Coffee Shops, Bookstores, Bars, Hair Salons and the Other Hangouts at the Heart of a Community (third edition)* Marlowe & Company, New York.

Simsek, G. (2012). Urban river rehabilitation as an integrative part of sustainable urban water systems. In *48th International society of city and regional planners congress. Perm, Russia*.

Trancik, R. (1943). *Finding lost space; Theories of urban design*. New Jersey, USA : John Wiley & Sons, Inc.,

