

Heritage Architecture: Conservation and Revitalization of Adamjee Jute Mill

MD Tanvir Hasan*, Ashik Vaskor Mannan, and MD Fahim Hasan Rezve

Abstract—Bangladesh has a glorious history of producing jute and jute products. Adamjee jute mill was the largest jute mill in the world, established in 1950. But unfortunately, it has been shut down in 2002 due to some unavoidable and political reasons. Later government and many private entrepreneurs tried to revitalize this mill but failed, and at present only few broken infrastructures exist as old memories. This ruined huge abandoned shade representing not only the jute culture in our country but also signifying our history. Nature changes with the time but memory of a space remains timeless if we preserve them. Rapid competition of development of our country creating threatens for the survival and continuity of our heritage and culture. The purpose of this study is to point out the possibility and importance to revitalize Adamjee jute mill as a heritage site and raise awareness about the increasing demand of jute in the world market.

Index Terms— Heritage, Jute, Landscape, Memory, Revitalization, Sustainability

I. INTRODUCTION

Jute is called the Golden Fiber of Bangladesh. Bangladesh is a major agricultural producer, particularly in the global production of jute (2nd), rice (4th), fisheries (5th) and tea (10th). The largest and renowned jute mill, Adamjee Jute Mill which was also known as the Dundee of the East is situated at Narayanganj. After Bangladesh was independent for the British, more than 80% of the total foreign currency in Bangladesh was earned from jute and its related goods that provided 12% GDP [1]. However, after 80's, the earning rate of foreign currency from the jute industry had gradually declined. The government of Pakistan encouraged Muslim entrepreneurs to come forward with proposals for the establishment of jute mills in the country, following which Adamjee Brothers of Calcutta contributed 50% of the share

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capital [1]. It was, however, closed in 2002 because of mismanagement, corruption, for different political issues and for labors strike. 227 acres of land lies there carrying the story of jute production. Adamjee jute mills have been thrown into the past. All the abandoned factory structures with old machinery are kept as rejected goods which carries our rich historical background of jute and jute production. So it has a chance to conserve so that people may know the glorious jute culture.

II. RESEARCH QUESTION AND OBJECTIVE

The main purposes of this research are as follows:

- To study the existing condition, context and road network of Adamjee jute mill through a literature survey
- To perceive the importance to conserve and restore this site as a heritage space.
- To understand how other countries and architects are reviving this type of heritage.
- To realize the challenges and the possibilities of Adamjee jute mill to preserve as heritage architecture.
- To search for the social and national impact of a jute mill.

III. METHODOLOGY

The research work is divided in three steps,

Step 01: Literature survey was done to have a theoretical perspective and to understand the existing condition of infrastructure, land use pattern and road network.

Step 02: Observe and select all the points inside the Adamjee jute mill and the possibility to revive its influences as our thinking of identity.

Step 03: Determination of transforming Adamjee jute mill infrastructure and space into a heritage site and the role of an architect to meet the challenges to do so.

IV. STUDY ON THE ADAMJEE JUTE MIL

A. History and Project Background

Initially, the proposed site of the Adamjee jute mill was in Siddhirganj, about six kilometres north of Narayanganj, which had large river, road and rail communication facilities. Set up in 1950, the mills were a symbol of pride on the bank of the Shitalakhya. 227 acres of land was acquired and developed for the construction of the mill. They imported different types of machinery and equipment for the mill with government grants of foreign exchange. By June 1955, the mill was ready for commissioning which had 3000 looms and 31200 spindles [2].



Fig. 1. Entry in Adamjee from Shitalakkha River, 1964



Fig. 2. Interior View of Adamjee in 1960

However, the mill became an abandoned property in 1971, and its ownership with management was vested on Bangladesh Jute Mills Corporation. After nationalization in 1972, the Adamjee Jute Mill started suffering from various internal problems [3]. The new management failed to ensure staff unity, product quality and the output of the mill could no more meet the specifications of overseas buyers. The situation gradually got worse and the mill started incurring losses, a trend which could never be reversed. Because of continuous losses incurred by the mill every year, the government closed it on 30 June 2002. Still now, this historical site remains as a barren and restricted site without any growth [3].

B. Land Use Pattern of Adamjee

Shiddhirganj is mainly an industrial area containing several factories. Shiddhirganj Power Plant is situated beside Adamjee EPZ, where a very few residential areas are there except

power plant housing and Bihari colony. Some commercial shops act as a supporting function for those industries. Previously, there were many manmade and natural water bodies; however, due to an increasing number of industries, most of the water bodies are filled up [4].

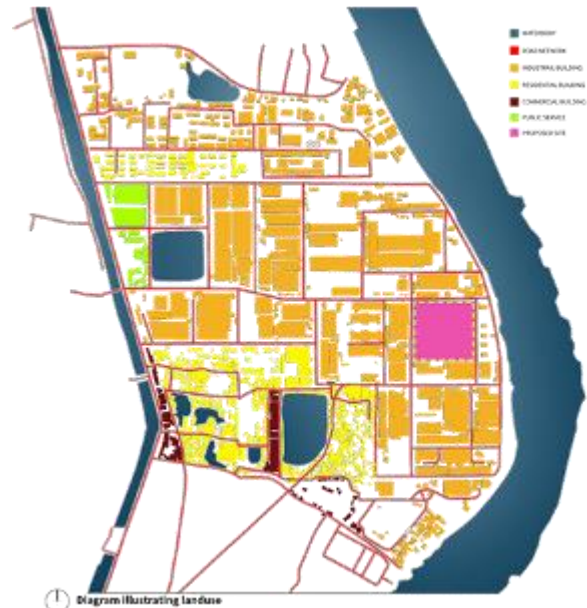


Fig. 3. Landuse Pattern of Adamjee area (survey result)

C. Zoning and Circulation

This heritage site is situated in Adamjinagar, which is 20 minutes walking distance from the Chittagong road bus stand, well connected with the city. The width of primary and secondary roads is 40 ft and 30 ft, respectively. Previously, Shitalakhya River was used as the main transportation system, but now, this river is not connected with the site due to urban development and water scarcity.

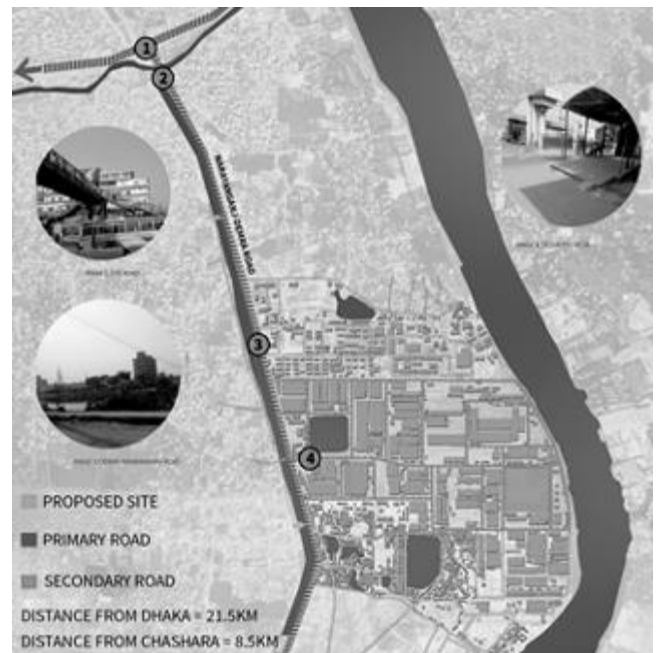


Fig. 4. Circulation and Connectivity with Zoning (survey mapping)

D. Existing Condition

The present condition of this historical place is much unorganized. Some parts of the mill shed exist with rusty steel columns and broken glasses which were used for ventilation. 70% of the land is vacant, and with the remaining shed, metropolitan police made temporary canteen and library. The area is also filled with sunken soil from the surrounding undergoing construction lands [5].



Fig. 5. Existing Structure

V. INFLUENCE OF AN ARCHITECT AND ARCHITECTURE ON HERITAGE, MEMORY AND HISTORY

Social, cultural, heritage architecture refers to the tangible and intangible memories which deal with the indoor and outdoor areas to achieve ecological, collective or artistic outcomes. Following this, heritage architecture analyze the significance of remembrance in constructed form, geographical features and the intersection of culture, people, place, community and land every day. Ingerson (2000) defined, “It is proper and important to think of cultural landscapes as nearly everything we see when we go outdoors” [6]. Here a landscape architect plays a significant part. Landscape architecture needs preservation which provides a sense of place, identity and history; the relationship grows with the land use process over time, and these are part of a tradition which recalls the past. UNESCO and ICOMOS are international organizations that concern about the preservation of places with landscapes. Architect, landscape architect and archaeologist decide the value of this preservation and national heritage committee take steps according to the suggestion. They deliver economic, ecological, social and recreational opportunities for heritage landscapes through the pattern, orientation or association between the heritage features and unique elements. Different aspect, knowledge and skills are required to conserve this heritage because of the globalization, modern technology, changing pattern of vegetation, seasonal change and urbanization. Heritage architecture conservation means keeping built structure and architectural features; it needs to follow restoration development as well as recreating scale and character. “No cultural heritage object can be understood without taking the surrounding landscape into account, by studying an entire cultural heritage landscape, socio-cultural patterns can be

discerned, such as how structures were placed in the landscape, areas where optimal protection from natural elements are located, or where food and the essentials of life were once in abundance” [7].

VI. STUDY ON HIGH LINE PARK, MANHATTAN, USA

The High Line is one of the influential and innovative examples of cultural and heritage renovation projects in recent years. This elevated rail structure is located in Manhattan, USA. The High Line is a monumental heritage place that portrays the industrial history of this city. It was constructed in the 1930s to lift cargo trains in the street which was opened in 1934. The main purpose was to load and unload all the delivery from nearby factories so that these heavy works will not create any problem in congested streets of the city. In 1999, an organization called “Friends of the High Line” was originated to preserve the history and memory of that place by renovating the old structure [8]. Finally, James Corner Field Operations, a landscape architecture firm, was appointed to regenerate this site to strengthen as a cultural place for the memory and past. In 2010, the High Line was opened and transformed as 1.5 miles long elevated Park with a sustainable solution of heritage landscape for the neighbourhoods and context [8]. This project is an important catalyst for landscape urbanism which changed the ideology and concept of heritage landscape theme as well as becoming a place that attracted many tourists around the world.



Fig. 6. Unused Rail Structure in 1936 and Context

A. Concept and Ideology behind a Heritage Place

Chief landscape architect, James Corner expressed his individual perspective on taking the decision for which a heritage turned into a successful pattern of cultural landscape. “NYC’s High Line is a project that exemplifies effective adaptive urban re-use in a city that is littered with structures and spaces of useful life. By turning an abandoned heritage spaces, elevated freight train track into a public park, this project has redefined the culture, experience, views of the city’s surrounding natural landscape as well as an expansive and intimate look into one of the world’s most dynamic urban environments” [9]. For High Line, the professionals completed this heritage place by engaging post-industrial beauty and

flavor of life, growth and recreational activities. The intention was breaking the rules of involvement between plants and human life through the nature, culture, intimacy. This Highline proposal is destined to remain eternally complete, emerging development and sustainable landscape because of the flexibility, opportunity, responsive and dynamic context.

B. Role of Landscape Architect and Critical Thinking on Conservation of a Heritage

Place and History

There are distinctive features and elements on the High Line greenway. Structural clarification, plan and outlook of the rail track have been well-preserved by the idea of landscape architect which provided a sense of place and history. Thus, the historic linear structure is restored and exposed for the public and tourists to know the originality of that place.



Fig. 7. High Line with its Context and the Sustainable Landscape Design

As a part of industrial heritage and cultural value, there are many factories and warehouses which have great importance for this site. One can easily overlook all those places from the elevated park as well as get a view of the waterfront edge in this city. At the same time, there are few inscriptions or informative photographic presentation into the park to describe that heritage value of that place. The landscape architect actually tried to sustain the flavour of heritage landscape through the layering. It's increased the opportunity to know the industrial history of the neighbourhoods, the role of elevated rail transport and created this place as a significant landmark of culture.

Materiality and sustainability

Plants are the main element of landscape architecture in this park which influences the cultural and heritage landscape to develop. Here, landscape architect divided the land into different planting areas which are a good idea in the sense of adaptive values. The vegetation ranges from different types of grass, shrubs, bulbs, perennial trees to tropical plants. I believe the romance of this wild garden with a variety of plants are suspended above the streets, city blocks which caught the imagination of nature and environment. It is a space to walk a long way where the park responded to the canyon that's forming around it but ultimately concluded to tune plantings to the gathering shadows and "keep eyes low". People will not feel bored or stretch while walking in this long park because of trees and the closest visual elements, physical connectivity to nature. The lights are also creating safe to walk at the same time allowing walkers to enjoy the surrounding ambient light which increased the robust quality of heritage landscape.



Fig. 8. Cultural activity and different types of vegetation

The main structure of this park is metal. During the transfer, each segment of the railway was marked and mapped its location to be stored. After storing these, all these returned in their place of origin and integrated together with plantings. It was a vital decision considering landscape architecture. For any heritage places, it is important to try to sustain the major portion of places as like before. Here, following the move, the steel elements of the structure were treated with a sand blasting to remove lead from the original painting. The original colour of metal expresses the heritage value of that place. From an ecological viewpoint, a landscape architect has avoided not only the energy waste and costs related to demolition of structure but also established a durable vegetation structure for a sustainable park. This planting ideology with proper lighting added aesthetic value and strong ecological chain within a dense and busy urban environment. Landscape architect also repaired the old Art Deco railings of the High Line. The pavement surfaces are also safe to walk and user friendly even for physical challenging person. These landscape detailing contributes to save this heritage culture.



Fig. 9. Plantation and Street Furniture as Landscape Element

The High Line has a great impact on heritage preservation sector where landscape architect devoted all the key features and elements to transform and retain this heritage for the local people and tourists. This landscape is peaceful to walk, to know about the history, to see the cityscape and to perform in different public activities through performance and activity. It's a meeting place where culture and heritage blend with the landscape. The architect did a great job in the sense of materiality, historical values as well as sustainability and contextually. As a story of industrial heritage value, somehow, this project is fully understood the significance of contextual differences and similarities. This Highline is the proof that heritage landscape is not a topic of decoration but more than art where people perform and explore themselves through the landscape architecture, without the landscaping knowledge it's not possible to preserve heritage landscape.

VII. IMPORTANCE OF ADAMJEE JUTE MILL TO REVIVE AND RECOGNIZE AS HERITAGE SITE

Adamjee jute mill as a heritage refers to a place where cultural, political, religious and communal history has been conserved for their identical and cultural value. Adamjee jute mill has huge land with lots of unused and broken structure within a restricted zone which still has national and international importance to conserve. As the first mill of this country and lots of memories with the communal people, it needs to portray on a bigger scale so that future generation can hold the root of jute. Though growths of population, urbanization, advance technology, economic progression are threats for this historical place, barely any steps have been taken for developing or regenerating it. Herbert (1997) argued that Old photographs, sketches, the activity of landscape design are part of the heritage and convey the memory [10]. Nowadays, the world is inspiring and developing the character of heritage sites because of globalization and urbanization aspect. Without us, every country imposes law to protect all these heritage sites and attracts the tourist. Heritage is an asset, a link to the past. So, we need to uphold the rich culture of Adamjee jute mill and prioritize this asset instead of destroying it. To define heritage, Hewson (1989) said “That which a past generation has preserved and handed on to the present and which a significant group of the population wishes to hand on to the future” [11].

VIII. PROPOSED DESIGN THOUGHTS

The main design idea was using the existing part of the shade as a jute museum, where the golden history of the jute will display. Different space will tell different stories about the evolution of the jute industry, the opportunities for jute and its products, etc. The extending part will be used as a small scale research institute, café and multipurpose hall whereas, the vacant land in front of the shade will be used as jute fairground.



Fig. 10. Zoning layout of Proposed Design

Observation of the Suggested Proposal

Main design idea was developed in 4 major parts.

Main museum: Using the existing mills structure as the museum purpose by keeping the main skeleton with necessary re development. Old photographs, sketches, activity of landscape design are part of this museum and can convey the memory. These will pay attention on the language of existing

mills so that historical attachment and cultural environment comes under a common ground

Administration: Admin and café zone is situated adjacent to the museum due to maintenance and control purposes.

Library and Multipurpose: Library and multipurpose are proposed beside the admin and café. Multipurpose will be rentable for communal facility and economic sustainability.

Research institute: There will be a research institute for jute research purposes which will be used students and researchers. The abounded field will be used as fair ground with landscape design. Jute fair and other village fair will be held there. The identity of a strong community is realized through reinforcing heritage, landscape and cultural philosophy of a society. This ideology reflects through the materiality and visual elements as well as significant transformation of landscape design could be seen in historic preservation. The lands beside the Shitalakhya River will be used for jute cultivation by the jute researchers.

A. Scenario 01



Without changing the main structure which still exists, the space will be converted into museum. The products of jute and machines used in the processing will be displayed there. The exhibits will be synchronizing according to the processing steps and system of that time.

B. Scenario 02



Water in front of the mill is a representation of jute life, because in jutes life cycle half of the time it stays in water. Plaza offers the visitors to come and enjoy the museum and also think about the amazing history of our jute culture.

Challenges for Adamjee Jute Mill as heritage site

Heritage landscape preservation is an investment in any community as well as the country that rewards and leaves the identity footprint for future generations. Adamjee jute mill site has few challenges to overcome to save history.

1. Re development of river transportation
2. Land division problem between BJMC and BEPZA
3. Ensuring secure public access in EPZ

IX. CONSTRAINTS OF ADAMJEE JUTE MILL PRESERVATION AND MEMORY

Lack of Education and Interpretation

The key challenge is to make people aware of the values and importance of Adamjee jute mill and the significance of jute. Preservation of heritage architecture is the way to express roots; which will influence people to conserve such places by knowing the value of jute history. Education plays a significant role in human psychological states that one should be engaged before they decide to implement any new strategy, concepts or initiative.

Technical and Disaster issues

Natural calamities are one of the challenges to conserve the heritage landscape. This jute mill is situated near the Shitolokhya River, which is being polluted by urbanization and different type of factory waste material. The edge of the river is filled with, and the water level is decreasing day by day. Environmental pollution, greenhouse effects are responsible for changing the landscape pattern of Narayanganj, and different disasters are responsible for losing historical, cultural and social identity. In this situation, the concern and proper steps should be implemented to preserve the water landscape. Moreover, there is a lack of technological advancement and a skilled worker in this field. These risks can be addressed by various means.

1. Well-structured recovery programs and spatial plan for Adamjee jute mill
2. Create awareness among the community people who occupy heritage properties
3. Develop record of industrial places
4. Regular maintenance and monitoring to avoid any hazard
5. Park or garden authority, different organizations should ensure in conservation process
6. Repair or replacement of structure regularly. The main idea of heritage architecture is to conserve the old flavor. Regular change of elements is the cause of identity crisis.
7. Lack of skilled Architect, landscape architects and advance technology can makes this as worst condition. Most of the renovation in heritage places does in a wrong procedure.
8. This site is now almost restricted zone where no one can enter. So many valuable species and plants are losing its existence. So, heritage landscape is facing the real challenge to survive with these species.
9. Urbanization helps to demolish the heritage buildings for economic purposes. Adamjee jute mill is facing the threat due

to government and different private organization wants this place to use differently.

X. RESULTS AND RECOMMENDATION

Adamjee jute mill is one of the talked topics in world heritage sector, on how to preserve these historical things. There are some recommendations by which the rich heritage landscape preservation and renovation can be started.

1. This BJMC land should be given permanently for the museum purpose.
2. Adamjee EPZ should give the permission of water body access which will reflect the previous water transportation
3. It should be restricted for the land developers who use this land as a dumping zone
4. Industrial vehicle parking should be stopped.

XI. CONCLUSION

Heritage is an asset, a link to the past. All over the world every country is imposing law and priority to protect all these heritage sites and some of them are recognized as national historic sites. Here, architecture, sustainability and historical identity are interrelated with each other in a sense of freedom, spirituality and symbolic meanings.

By recognizing the existing infrastructure of Adamjee jute mill, it's clearly visible that it's a place where history needs to preserve for the identical and cultural value of jute industry as well as our national history. That's why, Adamjee needs significant level of protection or consideration for the future generation. However, this research tries to establish the potential and scope to conserve this site and find out the possible sustainable solution to make this as a cultural heritage.

Adamjee jute mill as a heritage sites cannot regenerate themselves but, if left alone like now, will disintegrate and disappear because of human activity very soon. This old structure can revive by strict rules, policy, strategy and design all together. Mostly it's possible to get this vibrant place back by understanding the tangible facts of this place which is not possible without renovation. Without the responsibility and involvement of architecture, it's difficult to sense the attachment of the historic values and significance. Lastly, this research shows that – the proper thoughtful design process, contemporary requirement and standards can influence this place as a heritage site which can contribute on national scale towards achieving sustainable cultural infrastructure.

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