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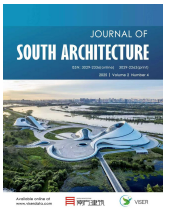

Re-adaptaion of a Functional Hospital Heritage from Sociological Perspective: Case Study of Dhaka Medical College, Bangladesh

Sayed AHMED[1], Shaharior Razu RAHMAN[2], Matthias TAUBER[3], Mahmudul MITHU HASAN[4]

Author Affiliations 1 Assistant professor, Architecture, Leading University, Sylhet, Bangladesh. (on PhD study leave). ar.sayedahmed@gmail.com; 2 Associate Professor, Sociology Discipline, Khulna University, Khulna, Bangladesh. (on PhD study leave) razusocku@gmail.com; 3 Professor, Architecture, Facility Management and Geoinformation, Anhalt University of Applied Sciences, Dessau; Germany. Matthias.Tauber@hs-anhalt.de; 4 FCPS, Junior consultant Doctor (Surgery), Upazila Health Complex, Bandar, Narayanganj, Bangladesh. mithu.somc@gmail.com

ABSTRACT: Historic buildings provide tangible reminders of the illustrious history of Bangladesh. These have significant emotional worth in addition to their architectural, artistic, historic, and iconic significance. They are a part of country's tradition and serve as emblems of its cultural identity. In order to maintain cultural history for a civic society that cherishes its past and cares for future generations, architectural heritage preservation is crucial in any urban context. Located in the heart of Bangladesh, the old Dhaka region is home to the Dhaka Medical College (DMC), a priceless piece of cultural history. The historical core of the city is a prime option for architectural and urban area conservation due to the exceptional quality of the spaces and the concentration of numerous historic buildings. This research looks for a way to revitalise the hospital without changing its original purpose or architectural design. Since the authority recently threatened to demolish the heritage building due to the so-called development of multi-storey solutions, which ultimately led to the haphazard trend of rapid urbanisation, the conservation plan or policy may be developed for adaptive reuse of the structure. In Bangladesh's challenging circumstances, the research's potential findings could help the relevant authorities adopt fair and appropriate practices for successful conservation, drawing inspiration from successful case studies overseas for coordinating various efforts to achieve the desired goal. The study may attempt to offer some recommendations and suggestions for combining the resources available for long-term, sustainable cultural heritage management.

KEY WORDS: Dhaka; Bangladesh; hospital heritage; re-adaption; sociology

1 Research problem identification

Article No. 61 of the Archaeology Department stated that, to protect any historical building along with other surroundings in old Dhaka, authority can enact regulations [1]. The Antiquities Ordinance of 1976 (as modified) and Article 24 of the Bangladesh's Constitution offer legal backing for the preservation of DMC for future generations. The national archaeological record lists it as a site. Additionally, there are requirements for managing and conserving historic buildings in the most recent gazette of the Building Construction Rule 2007 [2]. In this study, DMC (Figure 1) is taken as subject as it shows some threats, the boundary walls of promises are taken over by the restaurants, and the parking area is encroaching on its

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garden. The distinct architectural style and aesthetics are ruined by the name of modernisation and unsuitable installations. For example, a huge iron net was added in an ugly way to control the mass entry in the year 2002, and air conditioning units are present in every window. Also, External façade installation for air conditioning of doctors' and nurses' chambers was introduced as a new addition, which ruined the historic facades of the building, although the building is naturally ventilated. And more importantly, the heritage building is in great threat; several times the building was put up for debate to be demolished, and a multi-story modern hospital should be erected on the site instead, which ignited protest among the heritage lovers.

Figure 1 Main entrance captures the symmetric façade of DMC

There are lots of good examples around the world of how to fit modern installations over historic buildings. Experts need to be concerned about these historical value facts to conserve such a 'unique witness' still standing from the glorious history. For that, some socio-cultural study needs to be synchronised in heritage studies to identify the root psyche of Bangladesh's society: Why do Bangladeshis want to demolish their heritage and not properly understand the value? And what are the underlying causes that come from sociocultural factors and forces? These causes and consequences need to be identified first. Otherwise, no heritages can be protected in the future unless public awareness of protective attitudes is developed, included, and practiced in the mainstream perception of that society.

2 Research aim and objectives

(1) To identify the heritage value and significance of the DMC hospital from the literature review.

(2) The second goal is to find suitable conservation scopes for the DMC hospital, according to western standards coming from foreign case studies.

(3) To identify root causes for the existing lack of public awareness and interest in heritage conservation from the base of western sociological scholarship.

(4) To recommend and suggest possible measurements and policies for logistic and financial supports from the authorities and stakeholders that fit from Bangladesh's context, after appropriate analysis of the research findings (Chart 1).

3 Methodology

Refer to Chart 1.

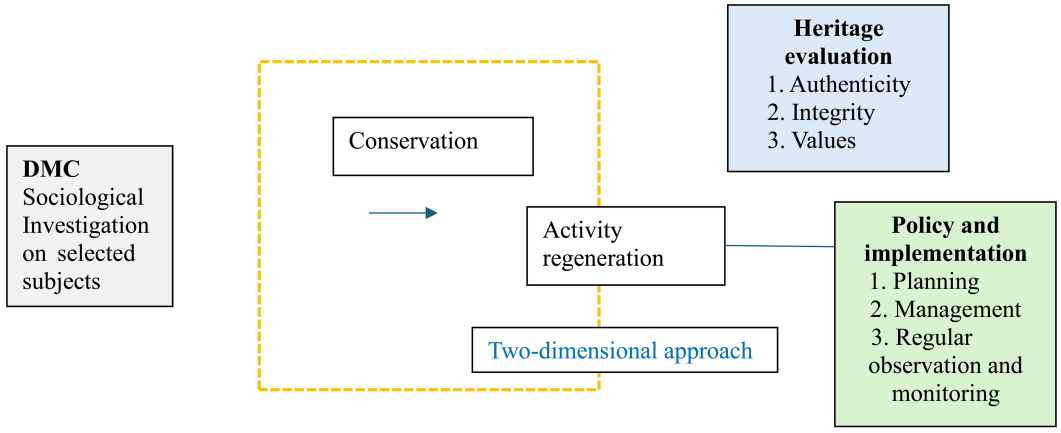

Chart 1 Methodology of research

4 Significance of the research

Architecturally, Dhaka Medical College shows the late British colonial architectural characteristics: a compound 'Zaminder Bunglow' type building with three entries. This is only one of a few late British colonial public buildings in Dhaka city, where the rest are either dilapidat-

ed or extinct today. Also, around DMC, heritage lovers will find many other colonial buildings like Curzon Hall, the High Court Building, and Bangabhaban (Presidential Palace), which has stood for 100 years, holding the contextual, urban, and architectural development history of Dhaka city as the capital of Eastern Bengal province from the British reign, which could be better explained through a heritage trail[3]. This building is the birthplace of the language movement. The dormitories, once known as 20 tin shed barracks (today's site for Shaheed Minar, commemorating the language movement), were the heartbeat of the Bengali Language Movement, as political protesters used to gather here and organise processions for demonstration. Because it was close to the Parliament of East Pakistan, which temporarily took its seat at Jagannath Hall of Dhaka University during the early days of East Pakistan legislation. On February 21, 1952, students decided to defy Section 144 at 4:00 pm from the historic mango tree called Aam-tola (present-day Emergency Gate; the tree is no longer there, Figure 2). The police fired at the procession, resulting in the deaths of many protesters, while only a few names like Salam, Barkat, Rafique, Jabbar, and Shafiur are known today. After sunset on February 21st, at the site of the deaths, the students of Dhaka Medical College decided to build a monument using bricks, gravel, and cement reserved for the construction of the hospital to erect the first-ever language martyr monument. The site was developed to its recent form much later by painter Hamidur Rahman and sculptor Novera Ahmed[4]. Today, this great incident was declared as International Mother Language Day by UNESCO in 1999, celebrated all over the world. Also, this building played a significant role in getting an independent country, Bangladesh[5].

Figure 2 Amtola in front of DMC in 1952, the mango tree is not existing today

5 Background

Dhaka Medical College Hospital goes with 4 types of functional reshuffle and adapts for all the purposes without any major changes in its plan and elevation. First, it was constructed as the Secretariat Building for the newly formed province of East Bengal and Assam in 1904. It was designed by British architect James Ransome (1865- 1944) in 1909 (Figure 3). The building also hosted the University of Dhaka in 1921. One part was the university's medical centre; another was the student dormitory, which again shifted as the university's arts faculty. In 1939, the university council requested the British government to establish a separate medical college. It was postponed because "American Base Hospital" was running during World War II[6]. After the war, the British government wanted to establish 3 modern medical colleges in Madras, Karachi, and Dhaka. Civil surgeon of Dhaka, Dr. Major W. J. Virjin, and local leaders launched a committee for the suggested medical college. Finally, in 1946 a one hundred-bed hospital was established as Dhaka Medical College and Hospital, where class started on 10th July[5].

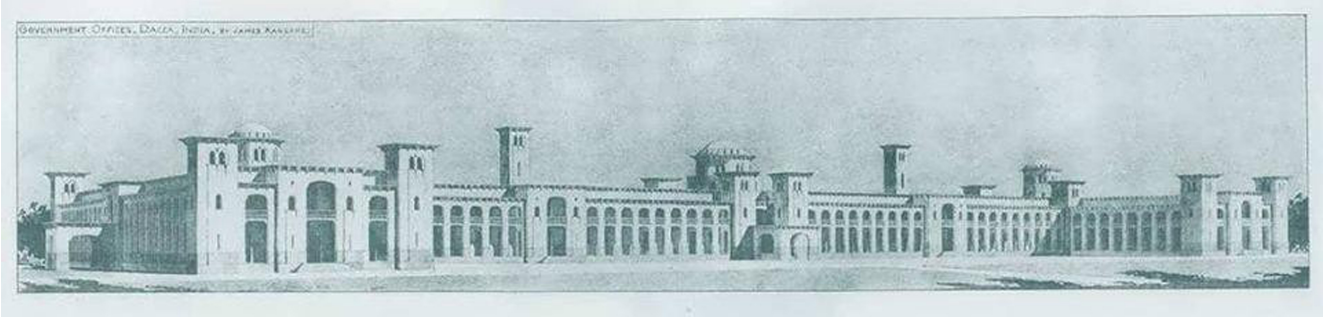

Figure 3 Dhaka Medical College image at British Weekly Magazine, 'The Builder': January edition in 1909

Adaptive reuse of the individual heritage buildings as well as any historic area is always referred solution in third world context[7] and DMC shows great potentials. Surprisingly, the building doesn't have any sleeping period within its four-stage transformation. The table below depicted its adaptation patterns, minor changes, and four phases chronologically (Table 1):

Table 1 Functional evaluation of the premise

Year	Purpose	Type
1904	Govt's public secretariat building	Administrative
1921	University of dhaka	Educational
1933	American base hospital military (World War I)	Public health
1946	DMCH	Public health

6 Architectural features of DMC

DMC is a wonderful and unique landmark in old Dhaka as well as one of the largest colonial public buildings. The building shows prominent local ornamentations with colonial features: dome, portico, porch, kiosk, parapet, series of columns, high raised plinth, oblong plan, series of courtyards, and symmetric elevation. This building is naturally ventilated as an internal courtyard, like the compounds of colonial landlord's houses, locally known as Zaminderbari,[8] is placed on its two flanks. Its high-raised plinth and symmetric elevation are other important features. The architectural style of DMC could be classified as quasi-Saracenic (Figure 4). Its huge dome at the centre is mainly inspired by the Mughal feature, but it is also recurrently used in many colonial public buildings to show power and prestige. While a portico is truly a European element to give a grand look at the symmetric building façade and defined entry to make it more monumental. Thereby, a new hybrid style emerged known as the Indo-British or the late colonial style [9]. It's echoed in three gateways; the main entrance echoed the central building block as the main entry. Another two are located on the right and left sides of the main building to assist the central one; these are smaller in size. The construction of the building entirely depends on the load-bearing wall. The main hospital quarter wall has a thickness of 20 inches on the ground floor and 10 inches on the upper floor, bonded with shurki (chips) and lime mortar. Limestone was sealed in the central structure to support the dome's structural stability. Brick chips mixed with mortar were used to construct the projective eaves and cornices (Figure 5). The horizontal elements were 6 inches, and diagonal buttresses were 8 inches in thickness. The bull's trench kiln of Hooghly produced typical colonial burnt clay bricks (22.8 × 10.7 × 6.9 cm). Burmese teak wood (*Tectona grandis*) was used for all the wooden frames and door and window friezes of the building. The longitudinal teak logs were placed over a frame. Beneath it and in between two frames, red brick chips mixed with the mortar were cast as a floor [4].

Figure 4 Architectural features from British colonial trend are dominant in interior

7 Case studies of successful hospital heritage conservation practices in Western context

7.1 The Cook County Hospital, Illinois, USA

Cook County Hospital is a historic Chicago landmark, has been revitalised as part of a $ 1 billion redevelopment plan. The building, completed in 1914, was once the heart of the Illinois Medical District healthcare community and was threatened with demolition. World-famous architecture firm Architects: Skidmore, Owings & Merrill (SOM), along with its local partners, has preserved, restored, and adapted the building to meet the changing needs of the neighbourhood. The revitalised historic hospital building includes a new hotel, food hall, medical offices, and community spaces. The renovation aims to restore the building to its former glory, including the development of the first blood bank in the United States and its role in the field of medicine. The renovation has earned the project a 2020 Landmarks Illinois Richard H. Driehaus Foundation Preservation Award for Adaptive Reuse (Figure 6)[10].

Figure 5 Architectural details on fenestrations, dome and light well features

7.2 Bathurst's old hospital, NSW, Australia

Bathurst's first hospital, one of Bathurst's historic landmarks, was initially a convict settlement built in the 1820s. Renamed Bathurst District Hospital in 1842, it faced issues like dampness and termites, and the new hospital was completed in 1880. An architect from Sydney, Mr. Boles, had his plans accepted in 1878. The new hospital was completed in 1880, costing £12,000. Bathurst District Hospital was listed on the New South Wales State Heritage Register of Australia on 2 April 1999. The late Victorian hospital complex, in the second empire style, features a two-storey administrative area, an operating theatre block, and octagonal operating theatres. It is constructed of brick with a hipped iron roof and moulded string courses, decorated with timber posts and cast-iron balustrades. Bathurst Hospital is still operational and provides essential healthcare services to the community, while the hospital is undergoing a significant redevelopment project, that will start from 2025 (Figure 7)[11].

8 Findings and analysis

Those who are keen to replace heritage buildings with modern buildings need to know that there are some better inherent and designed advantages of the heritage buildings compared to contemporary and designed ones, even though some of the contemporary buildings lack these facilities. Let's consider some architectural factors of the DMC complex for explaining its viability, which is still contextual and worthy of heritage preservation.

Figure 6 The Cook County Hospital, Illinois, USA. SOM renovated the hospital in 2020

Figure 7 Bathurst's old hospital, NSW, Australia

8.1 Landscape

A natural acoustic barrier in front of the premise is offered by the garden, which is working like a perfect buffer zone for a heritage. Moreover, larger trees provide shadows against the sun, while the hedges are acting like effective thresholds for sound and view control. Also, the huge grassland in the front is a perfect rainwater percolation area for recharging groundwater in a congested city like Dhaka.

8.2 Functional arrangement

It's posing an E-shaped footprint; such an oblong plan of the hospital building is very effective for the functional purpose and medical facilities of any hospital building. The main block has another five blocks like wings and a series of rooms with double-loaded corridors connected to all the surrounding verandas at its peripheries, which is a good example of accessibility from any corner. Additionally, at the adjacent point of two building blocks, every corridor has placed a staircase. Services were put at the end of the corridors, which are grouped together.

8.3 Energy efficiency

The building is also very energy efficient, as it was built in a time when the electricity supply and demand were not as high as in today's context. Such energy efficiency is achieved by optimising the natural sources: the ventilators, light wells, and eaves. As these colonial architectural details are present in the building facade and interior ornamentations, no artificial light is required during the daytime and load-shedding period of electricity. Heavy construction of the brick wall also added some heat insulation quality, and ventilators over doorframes help to keep the interior cool on hot summer days. The same thick walls help to trap the heat during the winter, while it's cool on the outside.

8.4 Climate-responsive design

Traditionally, DPC (damp-proofing course) is used in the foundation to provide effective protection against capillary action of groundwater, to prevent dampness, which is a great threat for the lifespan of any building, especially heritage brick-walled buildings like this. And to worsen the scenario, drifting rain can cause damage over years, which tends to accumulate in the footings of brick walls' steeped foundations. In addition to DPC, projected eaves are installed over each fenestration for rain protection. This provided not only a majestic character of late British colonial architecture of Bengal but also protected its facade from the decay in inner walls, while Bangladesh's monsoon period is very long, nearly 6 months, and even its dry winter season could be regarded as humid compared to other parts of the world. So, from which angle is this heritage building treated inferior compared to other newly constructed contemporary and so-called well-designed buildings?

9 Discussion: a sociological perspective

Sociologists study the social, economic, and political consequences of any conflict, inequalities, and environmental vulnerabilities, and the sociology of destruction terms it as 'destructive creation,' and the topic of this research surely falls under it. The "sociology of destruction" broadly explores how societal structures, institutions, and human actions lead to negative impacts, both on the environment and on human well-being. This study examines the social causes and consequences of built environment degradation, which is heritage destruction in this case, and the role of power dynamics, conflict, and inequality in inducing destructive processes. Politics itself shapes power dynamics, power structures, ideology, and economic interests in fuelling conflicts. Also, how new technologies or social structures can have unintended negative consequences, sociologists try to identify these factors as well [12]. For this case study of DMC, it is meticulously observed that the impact of past social movements, like the Language Movement of 1952, is still stimulating the aware psyche of the local communities, despite having threats coming from displacement, poverty, and urban spatial contestations. This study will try to challenge those destructive processes and promote more sustainable practices for 'architectural conservation' using two sociological tools like "right to the city," from Lefebvre, and "symbolic capital" from Bourdieu.

DMC has reflected a role of being a national emblem apart from its structural viewpoint. The entity was relevant in the Bengali Language Movement and is commemorated worldwide on International Mother Language Day. The demographic and social composition of the area surrounding DMC consists of working-class inhabitants whose financial activities are intricately linked to the vicinity of the hospital to a large extent. It can be observed that the street vendors and informal workers frequently operate in and around hospital premises with limited alternatives for their livelihood. Their utilisation of public space exemplifies famous modern social thoughts from the Lefebvrian approach of the "right to the city," which vouched for the idea of marginalised communities establishing their presence despite official regulations[13], frequently complicating hierarchical conservation initiatives, which is related to the present findings of this research.

The hospital's central geographical location renders it to be important as well as susceptible from different perspectives. It is evident that Old Dhaka experiences frequent flooding and congestion, with those who rely heavily on DMC being the most impacted by these natural hazards. Engineered for natural ventilation and climate resilience, the structure provides insights for contemporary urban planning. Besides, DMC possesses significant emotional significance, and from an environmental psychology perspective, locations such as this foster a sense of stability and collective memory for a nation. From a social psychological viewpoint, it is not merely a hospital; it is a site where generations have undergone significant life events for numerous individuals in Dhaka. To sum up, referencing Bourdieu's concept of symbolic capital[14], DMC's intrinsic value transcends its economic significance in many aspects. Its legacy as a centre of medical education and anti-colonial resistance imparts a greater social and geopolitical significance. Preservation necessitates more than mere architectural planning, as it demands inclusive, community-oriented initiatives that harmonise heritage with practical requirements.

This article has examined the potential for the re-adaptation of Dhaka Medical College Hospital (DMC), a location of substantial historical and cultural importance, to address modern healthcare and urban requirements while preserving its heritage value. It emphasises the equilibrium between maintaining identity and facilitating functional transformation in a swiftly evolving urban environment. A detailed analysis of how a structure can embody the conflicts among development, identity, and social equity is worth investigation from a sociological perspective. Socioeconomic discussions regarding its future emphasise the strain on land in rapidly expanding, low-income urban areas, as the paper developed an argument that in Old Dhaka, the increasing demand for contemporary healthcare conflicts with efforts to conserve cultural heritage sites. The concerned authorities frequently emphasise immediate economic gains, whereas heritage advocates contend for enduring social and cultural significance, which underscores a broader power dynamic where wealthy developers often overshadow the perspectives of marginalised communities.

10 Challenges

(1) The boundary walls are taken over by the vendors, stalls, pharmacies, and restaurants due to illegal encroachment.

(2) The parking area is encroaching on the garden; the rainwater-soaked area is turning into brown fields day by day.

(3) The maintainable and distinct architectural styles and features have been ruined over the years in the name of unnecessary modernisation. Especially the façade of the heritage building is losing its original appeal due to the installation of massive air conditioning equipment. Such unsuitable installations create disturbances to its original aesthetics. The case studies of this research should be followed for DMC conservation as an effective strategy; a central air-cooling system could be installed instead.

11 Suggestions and recommendations

(1) Authority must need to enlist the building as protected heritage and prepare a list of heritage buildings to be conserved in Dhaka city. To prepare this list, the city authority may consult with the Archaeological Department, the Institute of Architects Bangladesh (IAB), the Dhaka City Corporation (DCC), the Rajdhani Unnayan Committee (Rajuk), and university teachers, historians, and heritage experts based on the historic, scenic, scientific, social, and spiritual qualities of the heritage buildings [15]. This should be published as a gazette, and the list could be demonstrated for general discussion in the public sphere.

(2) The Archaeological Department, under the supervision of the Ministry of Culture, has to list special scenic, historic, scientific, social, spiritual, or naturally remarkable areas of Dhaka city as urban conservation sites to develop a heritage trail connecting all the heritage buildings and elements in a route. After preparing the list of heritage buildings, the authority has to notify the concerned owners of the buildings, provide subsidies to protect heritage, and bear the cost of conservation.

(3) For any change, extension, addition, or destruction of these buildings, one has to obtain written permission from the Rajdhani Unnayan Committee (Rajuk). The ultimate authority could be the Dhaka City Corporation (DCC), which can permit (fully or partially) applications to change, extend, adjoin, reuse (adaptively), or refurbish the enlisted heritage buildings. They can impose reasonable conditions for any alteration and bring charges against any vandalism also. Such permission from the authority will be

valid for up to 3 (three) years, and the owners need to renew it immediately.

(4) If any person/institute does some illegal change, extension, joining, vandalization, or destruction of the enlisted heritage buildings, the authority will order the occupier or owner to impede the tasks. If it seems that there is a lack of superintending of the listed buildings, the authority can entirely acquire the enlisted heritage buildings forever. Authority will take steps to upgrade and conserve the heritage buildings and urban areas from time to time. Law enforcement should be strict, and punishment should be executed immediately to create awareness in the public.

(5) Regular design competitions among architects and conservation specialists could be arranged to bring the best possible solutions for each of the heritage cases.

Conclusion

One fundamental idea can be used to encapsulate the entire conservation and management plan proposed in this study: different stakeholders should acknowledge the necessity of DMC conservation and management. The present study, which may enable the authorities to come under the Government of Bangladesh Umbrella as a common platform, focuses on mutually derived solutions of complementary authorities from Bangladesh's context for the adaptive reuse of the DMC buildings as well as the old Dhaka urban area. Public awareness should also be raised by experts (such as architects, urban planners, academics, engineers, archaeologists, historians, etc.), civic organisations, environmentalists, media, company owners, etc. In summary, this study recommends a cooperative strategy for managing DMC Hospital's cultural heritage, which is crucial given that the hospital still continues to serve its purpose and is recognised as the top public health care provider for the general public in Bangladesh. In order to achieve posterity in a challenging and difficult environment, this heritage could serve as a paradigm-shifting example of functional preservation in a third-world background like Bangladesh for an inventive conservation and management approach.

Sources of Figures and Tables

Figure1: Ar. Alamin Abu Ashraf Dolon, 2019

Figure 2: https:// mm-gold.azureedge.net/new_site/muktomona/bengali_heritage/bangla_language_movement.html

Figure 3: Rare photos of Bangladesh

Figure 4: Ar. Alamin Abu Ashraf Dolon, 2019

Figure 5: Ar. Alamin Abu Ashraf Dolon, 2019

Figure 6: Archdaily, 2020.

Figure 7: Heritage NSW.au.

References

[1] ANSARY T. Bangladesh: Back to the Future[R]. Asia Report No. 226, 2012: 1-23.

[2] MOWLA Q A. Colonial Urban Morphologies: an Inquiry intoTypology and Evolution Pattern[J]. Khulna University Studies, 2000, 2(1): 45-62.

[3] MASOOD REZA A T M. Study of the Development of Zamindar house, Dhaka division[EB/OL]. Bangladesh Sthapotto Odhidaptar Library, 2008. http://lib.buet.ac.bd:8080/xmlui/handle/123456789/1335.

[4] AHMED S. Architectural Guide of Dhaka[M]. Berlin: DOM Publishers, 2023: 80-81.

[5] Dhaka Medical College and Hospital. About[EB/OL]. 2025. https://dmch.gov.bd/about/.

[6] MOWLA Q A, Afrin S. Politics in Urban Design and Development: the Case of Post-colonial Dhaka[M]. Dhaka: A H Development Publishing House, 2019.

[7] AKHTER S. Panam Nagar, The Ancient City of Bengal: In Search of Continuity in Tradition[D]. Ottawa: Carleton University, 2004.

[8] AHMED S. In-between Heterotopia and Simulacrum: Vernacular Language of Courtyards in Bangladesh's architecture[J]. Journal of Architecture and Engineering, 2019, 4(4): 3 - 11. DOI: 10.23968/2500-0055-2019-4-4-03-11.

[9] MOWLA Q A, Reza M. Stylistic Evolution of Architecture in Bangladesh[J]. Journal of the Asiatic Society of Bangladesh, 2000, 45(1): 31-58.

[10] Archdaily. The Cook County Hospital, Illinois, USA[EB/OL]. 2020.https://www.archdaily.com/949625/the-renovation-of-cook-county-hospital-som.

[11] Heritage NSW. Bathurst'sFirst Hospital[EB/OL]. 2025.https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem? itemId = 5045115.

[12] SAID E. Environmental Degradation and Conflict Resolution [M]// Standish K, Devere H, Suazo A, Rafferty R. The Palgrave Handbook of Positive Peace. Singapore: Palgrave Macmillan, 2022. DOI: 10.1007/978-981-16-0969-5_42.

[13] LEFEBVRE H. The Right to the City[M]// Kofman E, Lebas E. Writings on cities. Cambridge, Massachusetts: Wiley-Blackwell, 1996: 158.

[14] BOURDIEU P. Distinction: A Social Critique of The Judgement of Taste[M]. Cambridge, MA: Harvard University Press, 1984.

[15] HUSAIN A B M, Rashid M H, Chowdhury A.M. Sonargaon-Panam: A Survey of Historical Monuments and Sites in Bangladesh [J].Asiatic Society of Bangladesh, 1997: 103-133.