



Bangladeshi Cultural Center: for the Bangladeshi Population Living in New York City

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BANGLADESHI CULTURAL CENTER:
FOR THE BANGLADESHI POPULATION LIVING IN NEW YORK CITY

A Thesis Presented

By

SABRINA AFRIN

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment of the requirements for
the degree of

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Department of Architecture

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ABSTRACT

BANGLADESHI CULTURAL CENTER: FOR THE BANGLADESHI POPULATION LIVING IN NEW YORK CITY

MAY 2018

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The twentieth-century brought a rapidly increasing global mobility and is causing a de-territorial effect on the world. The borders of countries are becoming more fluid. The bounds of cultures that were based on nationality, have become blurred, contested, open-ended, and unstable. These frequently modified cultural boundaries have created multiple cultural diasporic groups. A diaspora is a large group of people with a similar heritage or homeland who have since moved out to places all over the world. Globalism, with its elusive cultural identity, leads to a seemingly unified world culture and the once static sense of nation-state-based cultural identity is now mobile. This mobility and replacement of our locations destabilize our traditional sense of identity that traditionally has been deeply rooted in a sense of nation-state. As a reaction and resistance to the global forces, “localism,” or “nativism,” have simultaneously increased. Thus,

the cultural diaspora can be understood as a journey through multiple magnitudes of cultural boundaries.

This thesis reviews cultural identity with an emphasis on cultures that are undergoing a diasporic condition. I specifically emphasize notions of the nationality of a selected diasporic group of Bangladeshi people living in New York City over the past few decades. The vehicle of the research is the study of their current cultural identification, considering the varied struggles of this group in their new host land. After assembling and acquiring a holistic understanding of the current condition (economic, social, and political) of this group, a set of appropriate programs will be proposed to be incorporated into the design for a cultural center. The primary goals of this project are to encourage the socio-cultural, economic, and educational enhancement of Bangladeshi people living in New York City. The project will also raise a sense of unity among the diasporic group and enable a better understanding of cultural interchange.

Keywords: Cultural diaspora, cultural center, cultural journey, Bangladeshi culture, Bangladeshi population, New York City Bangladeshis, immigrants, foreign born Bangladeshis, cultural interchange.

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CHAPTER 1

INTRODUCTION

A diaspora is a large group of people with a similar heritage or homeland who have since moved out to places all over the world. The term diaspora originated from an ancient Greek word meaning “to scatter about”.¹ That is something the people of a diaspora do; they scatter from their homeland to places across the globe, spreading their culture as they go. This word is now used more generally to describe any large migration of refugees, language, or culture.

This thesis involves the criteria and issues to be considered for a design for a cultural diasporic group, the Bangladeshi community of New York City. In the twentieth century information technology became so advanced that moving around the world became possible. This migration is destabilizing the idea of nation-based cultural identity. People are moving for different reasons (financial, educational, others) and they are spreading their culture all over the globe. Traditional identity of a group that was linked with a geographical location is also moving with this mobility of the people. The twenty-first century's information

¹ " Definition of Diaspora in English by Oxford Dictionaries." Oxford Dictionaries | English. web.

technology also catalyzing this movement. This is having deep effect on the static sense of nation-state-based cultural identity.

Overall this thesis explores the cultural identity of this diasporic group, identifies their struggle through the journey from homeland to new host land and tries to solve the problems with set of programmatic elements, which will be the home of new cultural identity.

This thesis explores issues of cultural identity and diaspora as explored by Stuart Hall in his chapter ‘Cultural Identity and Diaspora’ (2000).² The differences between the identity of a diasporic group from the mother group, and the causes are explained with examples in Hall’s chapter. It investigates and furthers a discussion on cultural identity and its types. Hall explores two conceptualizations of “cultural identity,” one based on similarities, and the other on differences. This similarities and differences made a cultural diasporic group non-binary. He focused on the identity of the diasporic group in his chapter. Hall argued that diasporic identities are constantly producing and reproducing, and in so doing, they are making themselves anew, different from the past through transformation.³ This topic is explained further in chapter four of this thesis.

² Mirzoeff, Nicholas. *Diaspora and Visual Culture: Representing Africans and Jews*, (London: Routledge), 2000.

³ Ibid.

Stuart Hall's attitude toward the cultural identity of a diasporic group, and its difference from its 'mother cultural group' is addressed as a major issue of this thesis. This thesis, first reviews theories that focus on culture and identities from various disciplines, with the aim of unpacking the ways in which "identity" and "culture" have been conceptualized in various political and historical contexts. My goal is to seek a more holistic understanding of the cultural significance of identity, by examining the negotiation of cultural identities of a selected diaspora (Bangladeshi people living in New York City).

The Bangladeshi people living in New York City and their culture is the primary subject of this thesis. Bangladeshi immigrants have arrived in the United States in large numbers since the early 1970s and have become one of the fastest growing ethnic communities in New York City. The group identified here as 'Bangladeshi diasporic group' is comprised of both the immigrants and Americans who are of Bangladeshi descent. There are 74,000 Bangladeshi people living in New York City, according to 2011 census data.⁴ This thesis studies their current cultural identification, considering the varied struggles of this group of people in their new host land. The current condition of their socio-cultural identity as well as economic condition are considered to create a framework to meet their needs. The design of a new cultural center in New York

⁴ 'Asian American Federation Census Information Center' 2013. Web.

City to serve this community will be the beacon of physical and social space for this group to explore their own cultural identity. Moreover, it will increase the benefits of cultural interchange with the local population.

Programmatic elements of the cultural center will be set after careful study and exploration of the cultural condition of the ‘Bangladeshi cultural group’ in the new home city.

Throughout the process of this thesis, I aim to learn more about planning for a specific community and its benefits for the greater public. I have always been a supporter of community events as they support both public interaction and create a strong bond within the community. I also aim to learn more about park and public space design which will help me to design spaces that will be successful for New York City. Besides the design aspect of this project, a goal of mine is to also better my graphic abilities and my use of software programs I have learned throughout the past years.

CHAPTER 2

THESIS JUSTIFICATION

Over the decades, the Bangladeshi population has been migrating to different parts of United States for multiple reasons. The stronger economy and better chance of education in the United States are key factors for this migration. As the first world countries are offering more opportunities and better quality of life, the flow of immigrants seems to be increasing over time. In the U.S. the biggest population of Bangladeshi people lives in New York City. This big group of immigrants from Bangladesh and their descendants made the Bangladeshi diaspora in the New York City. As a diasporic group, with all the influences from surroundings of their new host land they have changed over time and learned to adjust in the U.S. socially and culturally. However, they have their own struggles in practicing their own culture and sharing it with the next generations which lead so many to some extent of identity crisis between Bangladeshi and American. Their struggles as a diasporic identity is addressed in this thesis and design process.

The socio-economic condition of the community also needs attention as the struggle is happening in this aspect too. In chapter five, the educational and economical condition of this population will be addressed.

This thesis will address these issues with an architectural design that reflects the composition and character of the Bangladeshi community, serving

the community's social, educational, transit, needs, while at the same time being responsive to its urban context.

CHAPTER 3

METHODOLOGY/ PROJECT FRAMEWORK

In this thesis I review theories that examine cultural identity with an emphasis on Bangladeshi culture which is undergoing a diasporic condition in New York City. First, I will study their current cultural identification and consider the struggles of and opportunities for this group of people in their new host land. Second, I will build a framework for studying self-identified inter-cultural connections. Third and finally, after assembling / acquiring a more holistic understanding of the cultural identity, economics, politics, and history of this group, I will propose programs to be incorporated into a new Bangladeshi cultural center on a site in New York City's Queens Borough. The center will address three programmatic concepts: the first program area addresses economic need and is devoted to income generation. The second program area is education, and will provide numerous classrooms and workshops where the users of the cultural center can provide activities that help multiple age and need groups. The third program component will develop public spaces which will help to promote cultural social interaction and will become a meeting place for residents of the city and the Bangladeshi community.

3.1 Contextual Studies

By studying the history of Bangladesh beginning from very ancient times through the present, some sets of cultural changes and negotiation can be identified. Through the study of changes of politics, economics, social issues,

and technology, this thesis will recognize some patterns of change in cultural behavior of Bangladeshi population. Another part of my contextual study will focus on the new host land of New York City, where the diasporic group is living now. By researching the politics, economics, and migrations of this host land, this thesis will have information about what this selected diasporic group has had to negotiate in their socio-economic and cultural identity.

3.2 Inquiry Instruments

For the inquiry, statistical data, including census data analysis, will be done to have a clear idea about the current economic, social, and educational condition of the user group. I will compare current demographics in the host country and the country of origin.

A survey of a selected user group is another vehicle of my inquiry. The Bangladeshi population living in New York City already have a platform named Bangladesh Society⁵, a Queens-based non-profit organization, established in 1975. From their website, “Bangladesh Society observes various social, cultural, religious and national events of Bangladesh in U.S.A. It organizes discussion meeting, picnics, street fairs, iftar/iftar parties, etc. The organization provides encouragement to Bangladeshi kids by rewarding their educational success. Bangladesh Society exchanges ideas about with community members,

⁵ www.bangladeshcircle.com/web.

journalists, other Bangladeshi community organizations, organizes free tax filing events and free legal clinics for Bangladeshi community, etc.”⁶ The Bangladesh Society owns a small property in New York City which provides a home for their administrative and educational activities. Connecting with the key persons of the organization and learning about their needs is part of my user study.

To study how Bangladeshi architecture has changed over time, I will consult historical documents and archives.

To inform the design solution, my inquiry will be based on the cultural significance of modern and historical architecture of this group’s root land and new host land.

The design will be based on a site which has been selected in optimum distance from the higher population areas of the diasporic group. In the design, the integration of site, population, needs, cultural significance studies, and history of Bangladesh and Bangladeshis’ migration will be integrated.

Climate and sustainability issues for the site location in New York City will be carefully considered.

Historical and current study of the architecture of Bangladesh will be based on the survey by the writer, with a series of photographs. Data will also be collected from books and archived documents of history. Through analysis of

⁶ Ibid

historical and current architecture of the area and study of crafts and artifacts of the same I shall have a clear concept and driving force for designing a cultural center which will belong to the heart of this diasporic community.

3.3 Program Development

Programmatic elements of the cultural center will be formed by studying the demographics of the Bangladeshi diaspora in New York City and also from user studies of a group of Bangladeshi immigrants. These studies will identify economic and educational conditions, as well as identify the important cultural values and what they miss and have been missing for so long.

Sustainable design decisions will be another part of program analysis. To make the project holistically sustainable I will consider environmental sustainability through design of form, structure, materials, building systems, and the conditions of socio-economic status to ensure ongoing cultural engagement.

CHAPTER 4

LITERATURE REVIEW

4.1 Cultural Identity and Diaspora

The book 'Diaspora and Visual Culture, Representing Africans and Jews', edited by Nicholas Mirzoeff, published 8 October 1999, by Routledge, London, explores cultural identity within diasporic communities. In the book's introduction, the editor notes, "In place of firm notions of identity has come an era of mass migrations, displacements, exile, and transition."⁷ Yet, no matter how much technology improves, life in the information age can still have the same sense of belonging and connection to cultural roots as it once had in very early 'village life'.

In the first chapter of the book, 'Cultural Identity and Diaspora,' written by Stuart Hall, Hall describes the types and definitions of culture and identity.⁸ He focuses on the Afro-Caribbean black diaspora of the West during a new post-colonial age. He shows that all cultural forms and representation for the Afro-Caribbean diaspora has the 'black' subject in the center. But that whatever individuals say or do, are never identical, never the same. That highlights the

7 Nicholas Mirzoeff, *Diaspora and Visual Culture*. (London: Routledge,2000), 03.

8 Ibid. 222-37.

issue in question: what is identity if things are never repeated or replicated by the 'same group' of people? Identity is not a complete form that has already been accomplished, instead, Hall describes, "Identity as a 'production', which is never complete, always in process, and always constituted within, not outside, representation."⁹

4.1.1 Two Views on Identity

By cultural identity, we simply mean the feeling of belonging to a group. The group can be racial, nation-based, religious, social class, or generation based. Any kind of group that has its own distinct behavioral pattern. For Hall, identity is not a concrete idea that has some fixed criteria, but it is a continuous process. He continues his discussion by elaborating on two views on cultural identity. His first view is, "cultural identity is 'shared culture, a sort of collective 'one true self', hiding inside the many other, more superficial or artificially imposed selves."¹⁰ This implies the idea of not having set rules as cultural identity. It is more of a shared collective idea that can be determined from the overall-selves of the group. The identity can reflect the common historical or geographical experiences strongly as a whole or can be very subtle and hidden.

⁹ Ibid. 222.

¹⁰ Ibid. 223

The shared cultural codes can be identified in the same cultural groups and that may have an impact on their cultural identity.

But this is not a fixed set of patterns that have already been set in the past. It is present and will be in the future. Historical and geographical experiences can make the identity, but it doesn't simply stay there. It is a process that goes through the present towards the future.

The second view about cultural identity is not focused on similarities, but on deep and significant differences, which constitute not 'what we are' but 'what we have become' through time. As discussed above, there are several similarities. Mentioning the one specific behavior which practiced the exact same way in the group does not cover the whole definition of their identity, but the 'rupturers' and the 'discontinuers' who do not behave the same way as others, are also a part of their cultural. The similarities may come from history, but they may also be historical behaviors that can change with time, and that by acknowledging these differences the definition of identity becomes more accurate. The similarities between the past and present in some context remind us of 'continuity,' while the second reminds us of our experience of 'profound discontinuity.'

4.1.2 The Diaspora

Later in the chapter, Hall continues to explore diaspora and diasporic groups. He uses the word toward the Afro-Caribbean more in a metaphorical way rather than being literal. "Diaspora identities are those which are constantly producing and reproducing themselves anew, through transformation and

difference.” – Hall argues about not being static and stuck in the past, but rather being transformed by the surroundings and reproducing anew for a new time and condition.¹¹ He recognized diaspora as the necessary heterogeneity and diversity. The ‘exact same behavior’ that diasporic groups did in the past is not the same behavior they do in the present. Yet, the cultural group will live with the concept of identity through those changes. They may have some, or a lot, of hybridity, as well as an ‘overwhelming nostalgia of list origins’.¹²

4.2 Sustainability Issue in all Aspects of Design

Movements in support of sustainability, and ways to achieve sustainability are discussed in the book by Susannah Hegan, *Taking Shape: A New Contract between Architecture and Nature*, Architectural Press, Woburn, Massachusetts, 2001. This book explores all possible aspects of sustainability rather than sustainability as a broad vague idea. Reading this book has had an impact on my understanding of how to design a cultural center for a community that is sustaining, in their own way, a diasporic condition. It demonstrates that for sustainable building design it is important to see sustainability in all its aspects, including its socio-economic and cultural aspects.

11 Nicholas Mirzoeff, *Diaspora and Visual Culture*. (London: Routledge,2000), 222-37

12 Nicholas Mirzoeff, *Diaspora and Visual Culture*. (London: Routledge,2000), 236.

4.2.1 Nature and Architecture

Nature and architecture are always connected. In this book, the author focuses on what contemporary trends connect nature and architecture in this new era, this 'sustainable era'. Today, architecture should be 'green architecture' to be a true, to be nature-friendly architecture. But what does 'sustainable' mean? The description of this book says, "This book explores the evolution of scientific and academic theories that have resulted in the concept of sustainability. Hagan uses this as a basis to argue for developments in the future and argues that these theories are not 'just an intellectual and aesthetic regression' as they are often perceived to be."¹³

'Taking Shape' emphasizes the still-emergent state of an architecture that is engaging in a new commitment of co-operation between built and natural environments, than so-called 'sustainable' or 'environmental' architecture. Cultural influence and technical innovation both have their influence on architecture. The capacity of sustainable architecture to embrace this influences, is focused in this book. Hagan focuses on the discourse and practice of environmental sustainability with architecture towards more awareness. She also

¹³ "Taking Shape: A New Contract Between Architecture and Nature : A New Contract Between Architecture and Nature." The Telegraph.

addressed, the impact of the new theories of sustainable technology and new materials in architecture.¹⁴

4.2.2 Sustainability and Traditional Practice of Architecture

In her introduction, Hagan clearly states a key point of the book. She noted, the sustainability is not as well understood as it should be in the present time.¹⁵ Even when it is acknowledged, it is done in a conservative manner, not embracing the changes that scientists have already proved are for the good of the environment. She questions whether designers will use design strategies that will fully accept the insights about sustainability that scientists have developed, or will designers continue to practice the same design methods that they have used traditionally? She wonders if scientific invention of sustainable methods will break the cultural practices used in traditional architecture. As the writer argues, technically, sustainability in architectural practice is already highly sophisticated, with environmental performance improving constantly. Yet, culturally, it has barely broken the surface of the collective consciousness.¹⁶

In the ideological battle between environmentalism and consumerism, how positions are presented are very important. Any practice that is perceived as

14 Ibid.

15 Susannah Hagan, *Taking Shape: A New Contract between Architecture and Nature*, (Woburn, Massachusetts: Architectural press), 2001.

16 ibid.

negative against one ideology can be, or can be presented, positively. The new contract between nature and architecture is in need of this rephrasing of the relationship between what we build and how we build. But what is important is to re-establish the contract more cooperatively between the built and the natural. Architects are a part of this system too. Architects have a responsibility to influence these systems of architectural production, promoting more environmentally friendly approaches that may bring change to the whole building industry. These actions will make a new contract between the built and the natural in this post-industrial world.

4.2.3 Aesthetics and Sustainability

The phrase ‘sustainable architecture’ doesn’t mean or really express the full range of ideas and concepts that it consists of. It can be defined with a very open range of contradictory interpretations. It can be both a critique of and a perpetuation of established practice. To some architects, architecture is just form-making, and some want to protect form-making from the potential reductive-ness of environmental design. Some only use low technologies and some only advanced. Some think environmental architecture should use formalism, while others think the opposite. These important debates are lined up in the introduction of Hagan’s book.

The ideological dimension of aesthetics is also touched on in the introduction. Aesthetics has the power to win over, hold or reject anything. It can do the same to the newly invented practices which are engaged in environmental

designs. But it can also play a positive catalyst role, making a contract between the culture of building and of nature.

Hagan raises the question in chapter 1, about the relations and contradiction between environmental and cultural sustainability and the ‘art value of architecture’. The architectures that are designed to be more focused toward the environmental sustainability may not be able to address the cultural sustainability issues. Because as the writer says, “environment is more than just the biosphere, into which we must now fit or die”.¹⁷ It is also the ‘built environment’, a cultural as well as a physical entity. The architects may not pursue the sustainability afford to address only the environmental aspect of the built environment when it is qualitative as well as quantitative. Therefore, sustainability is not only making architecture environment-friendly and responsive to where it is situated (responsive to the sun angle, wind velocity, green mapping, etc...), but also, to think of the environment as a broad idea that includes the built-part of the environment as well. We architects cannot just wash our hands by making/ designing our buildings just environmentally-friendly with some calculation responding to environmental data. Hagan understands that to be environment-friendly is to work both qualitatively as well as quantitatively.

¹⁷ Ibid.

Then comes the focus on beauty. Hagan writes, "Or is it possible to reconcile ethics and aesthetics outside of an environmental functionalism, in which use and expression are, as nearly as possible, one? Is the greatest good for the greatest number purely a material good, or is the leisure to be had from the built environment not as important as the pleasure to be had from the natural one? Isn't this pleasure, which inspires at least some of us to protect nature, equally important as an inspiration to protect built culture?"¹⁸

The tension between the environmental processes and their formal consequences can be negotiated by the new relationship between architecture and nature that Hagan is describing. The environmentalists have a narrow focus on the technologies of ecology and sustainability. They focused less on the spatial and visual issues. From this new relationship between nature and architecture, a newer approach to both environmental and cultural sustainability can evolve.

4.3 Relationship of Urban Planning with Architecture

Building facades create the interior and exterior of a living environment. Every little detail of it has building characteristics as well as urban environment characteristics. The excerpts from 'What Things Do: Philosophical Reflections on

¹⁸ ibid

'Technology, Agency, and Design' by- Verbeek, Peter-Paul, Pennsylvania State University Press, 2005, examines this idea about what little things can do.

4.3.1 Technology and Small Things

This book is about the roles artifacts play in our life. In the past, life was different with limited technologies as well as the philosophical expressions about them. The invasion, or invention, of technological development of the present time has made us question how this is affecting the culture of the 'role of artifacts'. Today we use so many goods which are technologically-developed, co-shaping our lives. The writer describes and analyzes this new trend from a philosophical point of view. All the technological goods we use today are associated with our life in every aspect, so how they are affecting us and what is their role in our socio-cultural life are important questions.¹⁹

What does technology really mean to philosophers? What was it to the classical philosophers? How did they anticipate the technological invasion of the culture? The authors answer these questions in the first few words of every paragraph/aspect of this book.²⁰ Classical philosophers saw technology as something that will take humans away from themselves and that it would destroy the aesthetic function of objects, only emphasizing the functional and their

¹⁹ Peter Paul Verbeek, *What Things Do: Philosophical Reflections on Technology, Agency, and Design*, (Pennsylvania: State University Press), 2005.

²⁰ Ibid.

objective function. As one of the main reasons for the development of technology is the focus on mass production of any object, the move towards mass production takes away the focus from the aesthetic function of the objects. As per the writer, technology did not stop, and the aesthetic function of an object was not discouraged, rather it created a different culture or definition of 'aesthetic functionality'. With the speed of technological development, the changing definition of the aesthetic functionality of an object happened very quickly. Verbeek's arguments, examples, and studies make it clear that technologies interactively co-shape society in many ways, without being alienating.

4.3.2 Aesthetics and Functionality of Products

Products have two functions, practical function and aesthetic function. The practical function it can be described as, a denotative function that is the functionality of the product--how the product can be used. And the aesthetic function is a connotative function that represents the lifestyle of the user or the lifestyle the user wants to achieve. As the writer describes, the products also show the users/owner's status and taste. Verbeek does not focus much on the semiotic reading of the products, and instead focuses on the artifacts as

mediators between human and the world, the mediation, is not the ‘product’s function’ but the ‘functionality of the product’.²¹

Another point Verbeek clarifies is regarding the aesthetic function of an object. That its aesthetic functionality is not only about the visual, is not only about its looks. Judging any object's aesthetic functionality by only its look is a common practice and a misconception about aesthetic function. The aesthetic goes beyond visual aspect of design more toward the design of the interactions. He said, “The sensory relations that are possible in the case of useful objects reach beyond the visual, for such things are meant to be used rather than looked at. The aesthetics of products concerns the practical dealings with them and involves their bodily presence, rather than just what they look like or signify, or how they are interpreted or read.”²²

The idea of mediation is also explained in this scenario. Mediation happens based on practical dealings with things--when things are used. ‘Things’ being used by people co-shape people’s life with their property. This co-shaping even has meaning to the human relationship with the ‘thing’ that has mediated the relation. So, the aesthetic beauty of a product is not just the style and beauty,

21 Peter Paul Verbeek, *What Things Do: Philosophical Reflections on Technology, Agency, and Design*, (Pennsylvania: State University Press), 2005

22 Peter Paul Verbeek, *What Things Do: Philosophical Reflections on Technology, Agency, and Design*, (Pennsylvania: State University Press), 2005

but also the relation between people and products. It is the ways the product co-shapes the relation between humans and the world.

So, I understand it this way; that the relationship between products and people shape the relationship between humans and the world, and that that is the meaning of the aesthetic function of a thing or product. So, it is not only the visual appeal of anything or object, but broader relationships that define design as an ethical practice.

Verbeek notes that the co-shaping should be done in such a manner that it is the responsibility of the designer. That things should be designed more engaging and transparent. That products should be more dependent on people's operation, and transparent in their work style. By being more engaging and by knowing how the thing works human will get more involved.

The arguments in the book are well-structured and include a lot of examples to make thing easy for the readers. Diagrams are provided to show the comparative relationships between subject and objects where needed. Exploring the arguments with different philosopher's ideas from past and present make this chapter more enjoyable.

4.4 Cognitive Architecture and Human Behavior

'Cognitive Architecture: Designing for How We Respond to the Built Environment', By Ann Sussman and Justin B Hollander, published 2015, Routledge, NY, discusses the relationship between Neuroscience data and cognitive behavior of humans. Cognitive science is a study of the human mind and its process. It analyses the behavior, psychological responses, and how

humans react to various situations. It is a new approach by which any built environment can be analyzed. It can be a tool for my design approach for a selected community in an urban environment.

4.4.1 The Approach of Cognitive Architecture and its Importance

The book review says, “In Cognitive Architecture, the authors review new findings in psychology and neuroscience to help architects and planners better understand their clients as the sophisticated mammals they are, arriving in the world with built-in responses to the environment that have evolved over millennia.”²³

²³ Ann Sussman, Justin B Hollander, *Cognitive Architecture: Designing for How We Respond to the Built Environment*, (New York: Routledge), 2015.

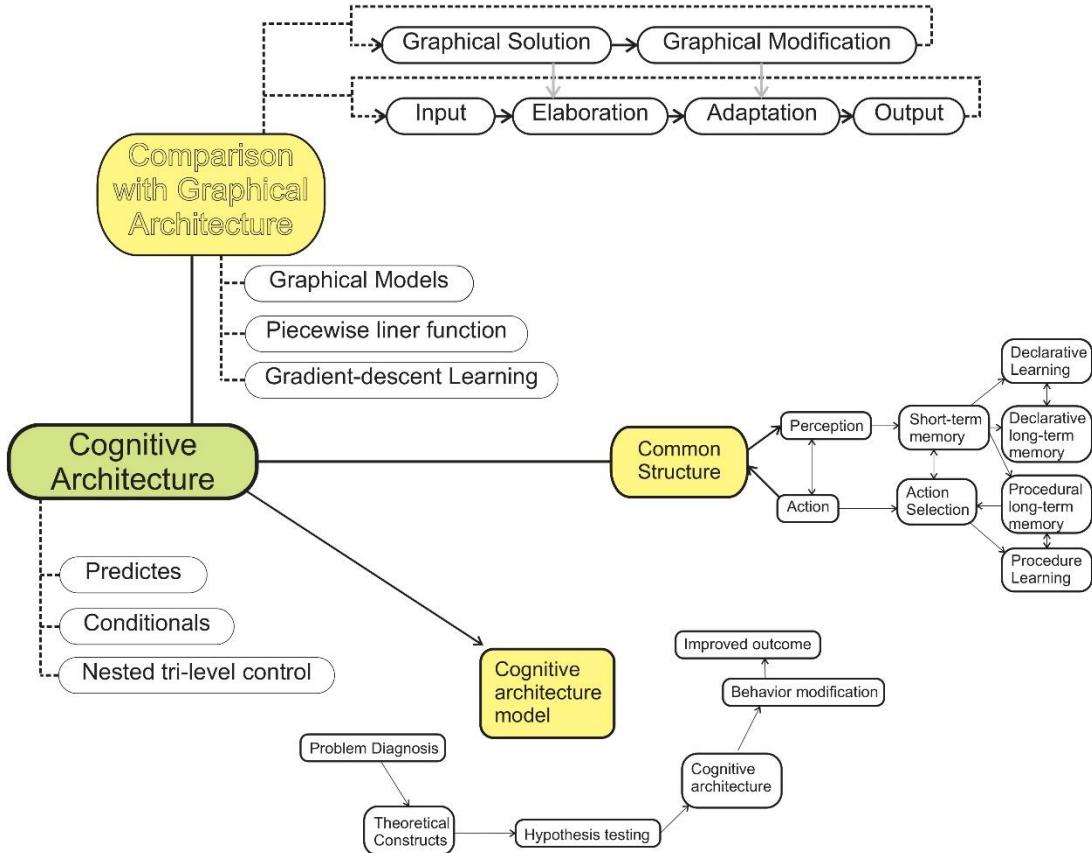


Figure 1: Cognitive architecture and its branches.

Chapter one starts with a description of Darwin's theory of the origin of the species. 'Evolution' is the first and last word of the book. It starts with a discussion about nature. Nature is not always clearly understood in relationship to architecture, but in this book, it is clearly understood. We know that human nature is affected by the physical environment it is surrounded by. Why and how this happens is the focus of this book. Early in the first chapter how humans evolved from single cell microorganisms and how, in our genes, we carry those memories is described. In addition, that usual normal human instincts are the results of the survival acts which had been practiced for thousands of years by

humans and their ancestors is also described. Later on in this chapter these survival facts are outlined under four main principles: Edges Matter; Patterns Matter; Shapes Carry Weight; and Storytelling is Key. The key to understanding the principle of “Edges Matter,” involve the fact that people are a ‘thigmotactic’ or a 'wall-hugging' species; for “Patterns Matter,” how we are visually-oriented; for “Shapes Carry Weight,” how our preference for bilateral symmetrical forms is biological; and finally, for “Storytelling is Key,” how our narrative proclivities, unique to our species, play a role in successful place-making.²⁴

Chapter two is about ‘edges matter’ and describes human reaction and interaction with edges. It explains how, as pedestrians, we a wall-hugging species and avoid the center of open spaces and tend to stick to the sides. The wall-hugging nature of humans is the focus here, and it is described as a survival and orientation strategy and introduces its scientific name’ Thigmotaxis’--which is used extensively throughout the chapter, and is not only applicable to the human race and can still be seen in many animals. An example of this that is described in the book, is at the Piazza Del Campo in Italy, where tourist and native people tend to walk near the wall areas and avoiding the center zone (figure 2.1 in the book). This also matches with Jane Jacob’s theory of people watching and

²⁴ Ann Sussman, Justin B Hollander, Cognitive Architecture: Designing for How We Respond to the Built Environment, (New York: Routledge), 2015.

feeling safe on sidewalks because people's eyes are always on the sidewalks. Sidewalks are most of the time besides the big streets and people feel safer being there. How Le Corbusier described a sidewalk in Paris is "...even here people laugh and manage to get along, even here they tell jokes and manage to have good times..."²⁵ He wondered how big cities generates these kind of human activities. This chapter explores the human nature of being thigmotaxis by many philosophers, psychologists, architects, town planners, and critics. Studies and reflections on this topic by philosopher Alain De Botton, architect Le Corbusier, urban critic Jane Jacob, psychologist Sigmund Freud, and neuroscientist Eric Kandel come up many times in this chapter. Sussman and Hollander successfully present their findings on human nature and the implications for small-scale architecture as well as the scale of city planning, and relate these insights to cognitive science.

4.4.2. Study the of Human Mind

Cognitive science is study of human mind and its processes. It analyses the behavior, psychological responses, and our reaction to various situations. It has been proved that humans tend to use their visual receptors most often, rather than other receptors, like nasal or auditory. Humans resonate both with the

²⁵ Ann Sussman, Justin B Hollander, Cognitive Architecture: Designing for How We Respond to the Built Environment, (New York: Routledge), 2015.

cellular and consciousness levels of our environments. By creating an environment around us that is supportive to both our inner and outer senses, we can enhance our human links with nature. Understanding the space that surrounding us has been an ongoing challenge for many disciplines. For architects, who conceptualize and shape space by designing buildings and cities, Sussman and Hollander explore the challenges that architects face, writing, “There is a central paradox to architecture and planning that this book also addresses. Practitioners rarely meet the people who will be most affected by their work. Most buildings outlive their creators. Post-occupancy evaluations are expensive and infrequent. Even in residential design with an average American staying in a house only 13 years, the building will likely long outlast its original tenants. What should the architect or planner know about the human as a generic client? How should they think about something as complex as ‘human nature’ or establish guidelines for designing successful places for people never met?”²⁶

Cognitive science is interdisciplinary because it includes knowledge from neuroscience, as well as from fields such as psychology, artificial intelligence, linguistics, anthropology and philosophy. Through the interdisciplinary lens of

²⁶ Ann Sussman, Justin B Hollander, Cognitive Architecture: Designing for How We Respond to the Built Environment, (New York: Routledge), 2015.

cognitive science, designers can establish a relational understanding between neuroscience and architecture and arrive at a more detailed study of the human-environment relationship.

4.4.3 The Context of This Book

The more we understand human behavior the better we can design for it. This is an ‘inside-out approach towards design. The new designs which are to-be-built can be analyzed with the human behavior data, can allow the designer to foresee the future experiences of the built. The introduction of this book says that this book used exercises and case studies with pictures and illustrations, to help to learn relevant scientific terms and suggest topics for further study. Using recent findings in neuroscience and evolutionary biology, the authors pointed out the key to human nature. This book discusses the relation and importance of using cognitive science data in architecture and urban planning. Humans are evolved from mammals with their perceptual system as a product of natural selection as mentioned by Charles Darwin in his book Origin of Species in 1859. It can be seen in the ways humans function, including how we walk, think, see and prioritize viewing things in our environment. It also focuses on the conscious and subconscious tendencies and behaviors that govern our responses to built environments.

The authors combine neuroscience data and correlated it to many studies and critical approaches in architecture and urban planning fields. Their findings show how human behavior is controlled by the evolutionary muscle memories which are programmed in our genes. This is one way to see how Jane Jacobs

explained city as an organic growth. Basically, that is governed by the human behavior which she studied.

4.4.4 Application of Cognitive Architecture to Urban Planning

I think relating cognitive science and architecture/urban planning is a newer approach to architecture. This trend should be further explored and applied. Analyzing human nature in the design of a space is not a new approach, but starting the analysis from the starting or evolution is a new methodology. In the book, the authors used multiple examples and proved that the data from neuroscience work in architectural theories, but all those are case studies of older cities or architectures.

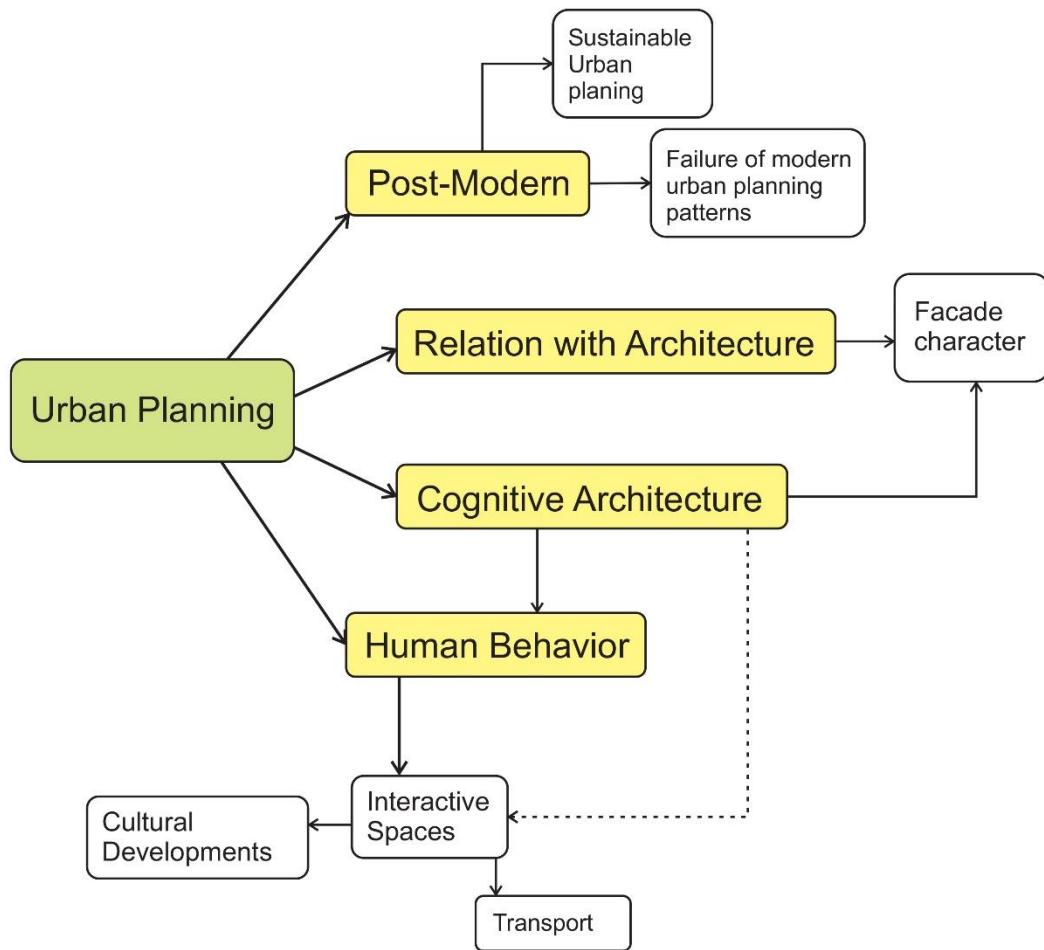


Figure 2: Cognitive architecture and urban planning.

Any work of architecture which is being built now or planning to be built should follow a process where cognitive architecture and human behavior is combined, no matter what time or context. In chapter 2 of this book, the authors demonstrate why streets should be well defined and how they should be made walkable. They also cover the type of the building elevations that would also have positive results, and many other aspects of city planning. And in other chapters, the cognitive science's effect on interior architecture is also described

with examples. This demonstrates that every designer should take this approach into account (even if they are not designed for humans--e.g.; zoo, animal shelters, wildlife reserves etc.). Designers should start their design process from the data of the cognitive science of human/animal behavior.²⁷

4.4.5 Example of Cognitive Behavior in a Built Environment

The book has a long list of examples of data and studies that explore the cognitive behavior and its link with architecture and urban planning, moreover, these existing case studies demonstrate how they part of the discipline of cognitive science. One intriguing example of the many provided, is the study of the patterns when people walk in cities. In this example, the authors look at the eighteenth-century Rue De Rivoli arcade in Paris. Designed by Napoleon's architects (source Gary Hartley), the arcade was made to support the ways that human walk and to encourage our movement forward. Another example the authors examine is from central Boston. One of the most successful pedestrian areas in Boston is Hanover Street, an old road in the city's North End. Interestingly, it was laid out in pre-colonial times by indigenous people as a route to the harbor (books figure-2.8).

²⁷ Ibid.

As this lay in between important location, after automobiles took the lead on the streets, this was planned to be demolished. After ‘renovation’ of this street which usually called Scollay Square, it became a big pedestrian void. It represents an early modernist planning ideal: there are no small streets, blocks or complex intersections that slow traffic; no building front at the street. These elements were no longer considered part of the city’s human life.

Then the city planners again thought of placing something there with more life, a ‘living library,’ to make the place more inviting.²⁸ Here the author pointed out why the library is successful. A library is a social gathering space, and people feel more invited toward it as well as the adjacent walkways. These public behaviors are possible to understand through cognitive science. Cognitive science replies to the questions, why human behave in a certain way in certain environments.

Even in my home city of ‘Dhaka’, Bangladesh, we can see the two very distinct divisions that are discussed in the examples above Old Dhaka evolved like an organic city, with walkable streets and complex paths. The streets of the old part are more welcoming, and more there are more people. There are many building fronts and windows there that invite more people, and that makes the

²⁸ Ann Sussman, Justin B Hollander, Cognitive Architecture: Designing for How We Respond to the Built Environment, (New York: Routledge), 2015.

streets safer. Those streets have a life that I can feel whenever I visit there. But the new parts of the city are developed under modernist urban planning principles. In the newer parts, there are people too, as it is a very crowded city, but this population is more like moving towards their destination by automobiles. Nobody really wants to stay on the sidewalks, and neither do I when visiting. Lifeless automobiles dominate the big streets, and there is no place for humans.

CHAPTER 5

RESEARCH FINDINGS

5.1 Bangladeshi Population Living in New York City

The Bangladeshi population living in New York City is mostly concentrated in few areas. The borough of Queens finds 60% of New York City's Bangladeshi population living in the area.²⁹ Other parts of New York City in which Bangladeshis are living include Brooklyn, Bronx, Staten Island, and Manhattan. The Queens population is divided into two clusters. One is around the Jamaica area, other one is the Jackson Heights - Elmhurst area. The Consulate General of Bangladesh is located at Jackson Heights. Businesses and property owned by the Bangladeshi population are mostly situated throughout the Queens neighborhoods of, Jamaica, Jackson Heights, and east Elmhurst. 2011 census data places the number of the whole Bangladeshi population living in New York City at 74,000.³⁰ Approximately 30,000 live in Queens. The second dense Bangladeshi population in the city is in Brooklyn, here lives 19% of Bangladeshi, which is 9,500 people. Other more dense areas are Bronx 17% (8,275 people), Manhattan Island 4% (2,000 people) and Staten Island 0.4% (200 people).

29 Census data 2013. Web.

30 ibid.

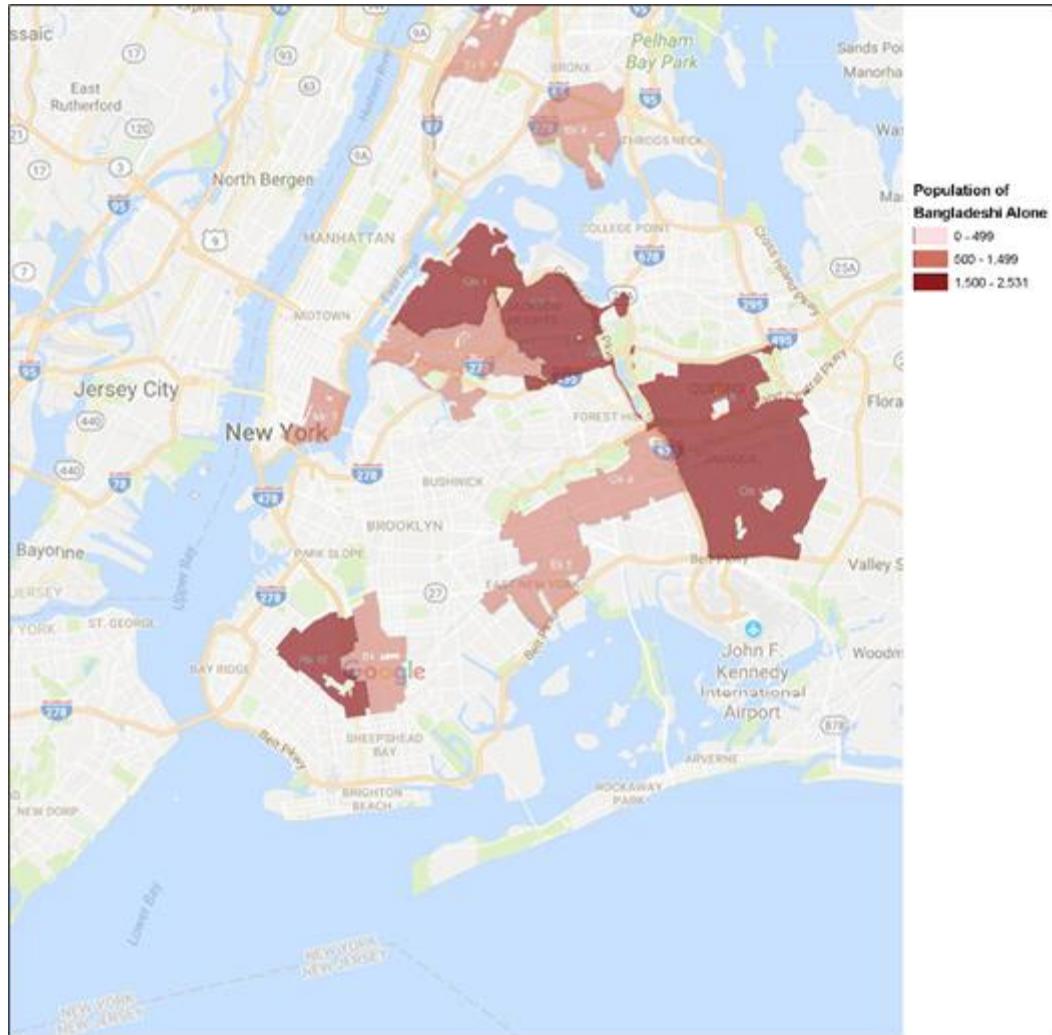


Figure 3: Bangladeshi population density living in the New York City.

5.2 Demographics Analysis

Using recent census data, I did demographic data analysis of the Bangladeshi population living in New York City. This analysis shows their current socio-economic condition, language proficiency, and immigrant-foreign born ratio. From the first pie chart it is visible that 32% of the Bangladeshi population

in New York City are living in poverty. 22% adults are without even a high school diploma. 53% have limited English proficiency. The immigrants and foreign-born ratio is 26%-74%. Form these data, I derived needs that the Bangladeshi community in New York City have been missing and that will become the programmatic foundation of my design project.³¹

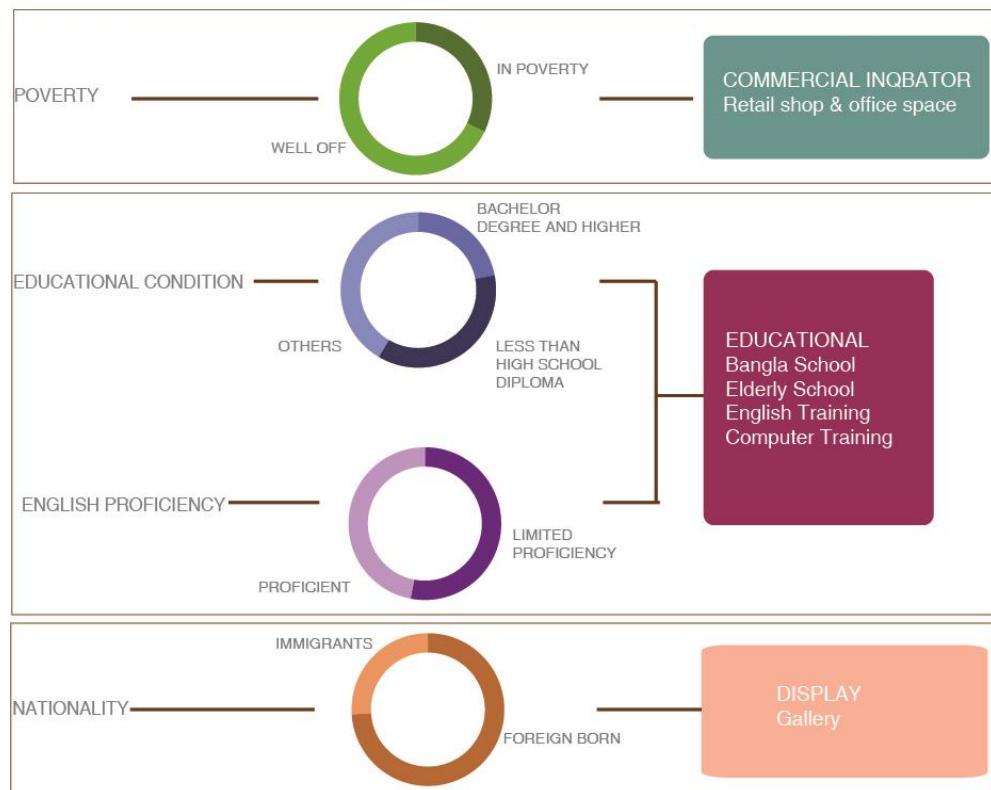


Figure 4: Demographic data analysis and its relation to program formation.

³¹ Ibid.

5.3 User Survey and its Results

A survey of a select group of Bangladeshi people living all over the United States has also been done to inform the program formation process. The survey was distributed to Bangladeshi population social media groups living all over United States and there were 15 participants. Most of the participants are immigrants and they talked about the missing ‘home’ in the U.S. as well as the benefits and positives sides of living in U.S. The questions asked were carefully developed so that both positive and negative points of both homeland and new home come to light. After getting the responses, I have put the answers in to word clouds to identify the most discussed words and provide me hints of the proposed programs that would support their needs. What follows are the questions and word cloud analysis of the answers.

1. Why did you come to the U.S.?

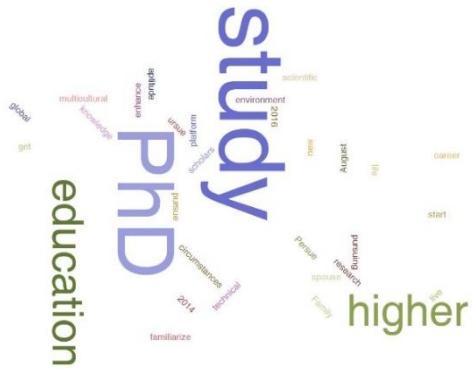


Figure 5: Answers of question one.

2. Which aspects of life are better in the U.S. than in Bangladesh?



Figure 6: Answers of question two.

3. Which aspects of life are better in Bangladesh than in the U.S.?



Figure 7: Answers of question three.

4. Which aspects of the Bangladeshi culture do you continue to practice in the U.S.?



Figure 8: Answers of question four.

5. Which aspects of Bangladeshi culture do you think should flow through to the next generation of Americans from Bangladeshi origin?

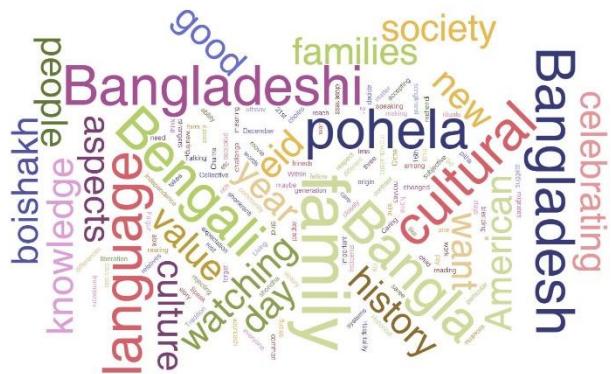


Figure 9: Answer of question five.

Review of responses indicated that the common words are: culture, festival, food, cooking, Bangla language, family, get together, celebrating, and so on. The answers to the first question show that the majority of the users choose to be in the U.S. for a better quality living and higher educational opportunities. Being here they still practice Bangladeshi culture in their own way and want it to flow through the generations.

5.4 History of Bangladeshi Architecture

The history of ‘architecture of Bengal’ is characterized by the impact of many forces throughout time. The oldest architectural evidence found in Bangladesh is from 700 BC. What is notable is that from that earliest example, the architecture was influenced by multiple political invasions throughout history.

We find Buddhist, Hindu, Islamic, Indo-European, Colonial, and Modern influences on the architectural style of this area.³²

Each different political movement came with its own architectural styles. Despite these changing influences, the primary construction and facade material throughout was mud brick and afterwards burnt bricks. In the Islamic age, the marble jaali was imitated by the local craftsman with mud castings. That started with the brick jaali which is still used as a facade treatment in the area.

32 Muntassir Mamoon, Dhaka: Smriti Bismritir Nagari, (Dhaka: Ananya), 2014.

<p>Ancient Architecture of Bengal</p> <p>Buddhist regions- till 7th century</p> <p>Buddhist Kingdoms- till 8th-11th century</p> <p>Burnt brick structures found, orthogonal plans of Educational institutes, temples found with well designed drainage systems.</p>	 <p>Mahasthangarh is the oldest archaeological site in Bangladesh. It dates back to 700 BC. The fortified area was in use till the 18th century AD</p>
<p>Sena Kingdom- from 11th-12th century</p> <p>Dhakesswari Temple was built,</p> <p>Hindu influenced architecture.</p>	 <p>Dhakesswari temple, Dhaka.</p>
<p>13th-onward, unstable between Bengal Muslim rulers, Hindu kings, Muslim landlords.</p> <p>Brick Structures with lime plaster.</p> <p>Decorative facades.</p>	 <p>Residential units made by wealthy merchants.</p>

Figure 10: Images and texts showing the remaining from past.

Articulation of functional spaces around courtyards is the architectural style which originated from the area.³³ Architecture, from very rural dwelling houses to complex palaces, had multiple layers of courts (open to sky or with roof) which ensured the activity spaces within varying degrees of privacy. In

33 Muntassir Mamoon, Dhaka: Smriti Bismritir Nagari, (Dhaka: Ananya), 2014.

Figure 10, interior and exterior courtyards are visible. The formation of the rural house and its growth is shown in diagram form in chapter eight.

<p>Influence of Islamic Architecture Started Late 16th and 17th. Under Muslim landlords lead by a Muslim leader. Practice of Islamic Architecture Late 17th- 18th century, Mughal emperor. Brick structure, Domes and minarets, orthogonal plan.</p>	 <p>Lalbagh fort, Dhaka.</p>
<p>Indo-European style developed, from a mixture of mainly Indian, European and Central Asian (Islamic) architectural style</p>	 <p>Tajhat palace, Rangpur. Ahsan Manzil, Dhaka.</p>
<p>1971 Birth of Bangladesh Modern Architecture in Bangladesh, Use of different materials and styles.</p>	 <p>Parliament building of Bangladesh, Dhaka By-Architect Mazharul Islam. Institute of Bangladesh, Dhaka By-Architect Luis I khan.</p>

Figure 11: Images and texts showing three ages of architecture of the area.

<p>1971- Present Present Architectural trend in Bangladesh. Design for hot-humid climate, passive cooling strategies, regenerating and experimenting vernacular strategies with new materials.</p>	 <p>Mosque, Dhaka. By-architect Merina Tabassum.</p>
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Figure 12: Images and texts of a new contemporary architecture in Bangladesh.

5.5 The Current Cultural Condition of Bangladesh

Bangladeshi people are very fond of cultural celebrations. Throughout history, the many political invasions have not only influenced the architecture, but have had a huge impact on the cultural events too. In Bangladesh, there are a handful of cultural programs throughout the year. But the most celebrated traditional events are those, which are being evolved with the nation's history from ancient time. Besides that, there are some religion-based celebrations, in which also all religion and cast participates regardless.



Figure 13: The cultural calendar in Bangladesh throughout the year.

The Bengali cultural year starts with February. February 13th, a day known as Pahela Falgun, is the first day of spring according to the Bangla calendar, a very joyful day. People usually wear yellow/orange or any colorful attire to express their happiness. Then 21st February, International Mother

Language Day, is a day of pride for the nation as well as a sad day, people pay respect to the language martyrs in the early morning. A month-long national book fair is arranged every year in the memory of the language martyrs. Then 26th of March is the Independent day of Bangladesh. Then comes the biggest celebration of the year on April 14th, which is the first day of the Bangla calendar, Bengali New Year. This day is a government holiday in Bangladesh. This is a celebration of the spirits of Bangladeshis. There are more events celebrated throughout the whole year, but this short list identifies the primary cultural holidays.

It is a custom of celebration for joyful events for people to wear traditional attire to show their unity with the whole. People enjoy the day with friends and family by visiting multiple fairs and events arranged by cultural organizations. This cultural calendar has a very strong influence on my program formation. The existing Queens-based cultural organization, The Bangladesh Society, arranges big events bi-yearly for the New York area Bangladeshi community.

5.6 Building Program Needs

From all these studies I have formed my architectural building program. Data for program formation was also done by talking with a key person from the existing non-profit foundation working for the Bangladeshi community in New York City, the Bangladesh Society. They are housed in an office in the center of Queens. They have educational and administrative activities running out of the small office. For events, they depend on rental event spaces, which is not an economical solution for this organization.



Figure 14: Existing program being served by 'Bangladesh Society'

From all these studies, the proposed program list that is needed for the community looks like this.



Figure 15: Proposed programs and its area ratios.

5.7 Crafts and Artifacts of Bangladesh

In the research process, I have looked through the ancient and current crafts and artifacts of the area. This is done to have some better understanding about the local patterns and craftsmanship.

Here the crafts are assorted by the crafting technique, and then the material typology. The same techniques are applied to multiple materials and have different results. The objective of this research was to find inspirations for design and to understand different material qualities.

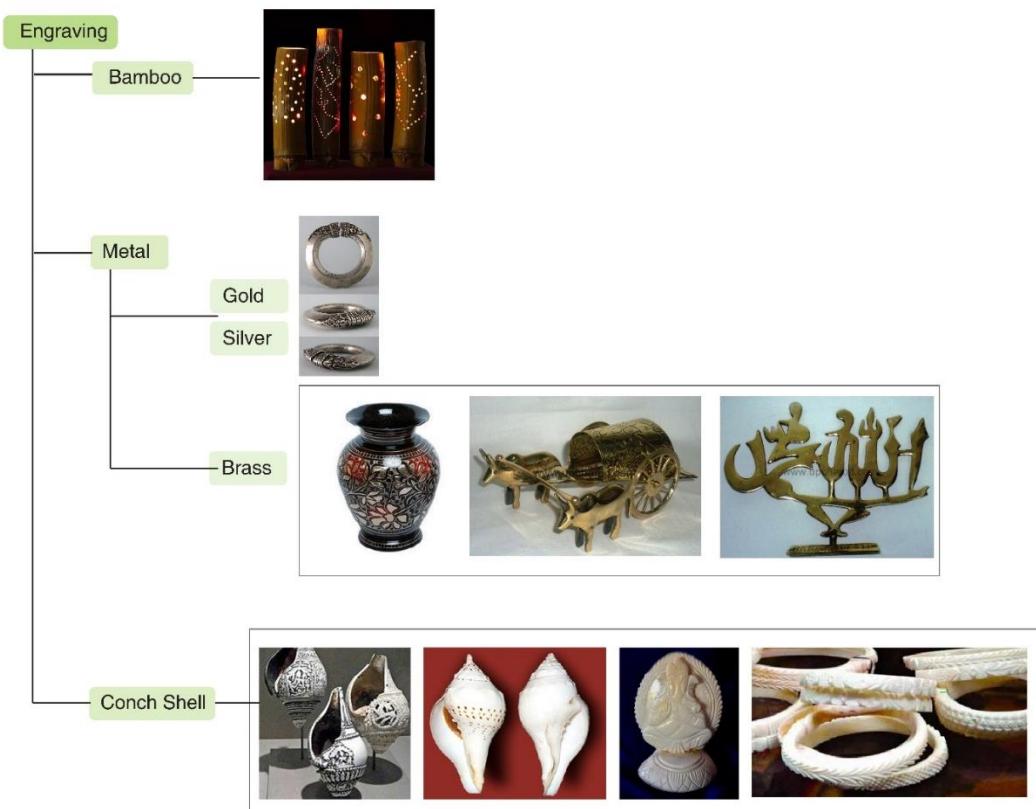


Figure 16: Artifacts and crafts of Bangladesh.



Figure 17: Artifacts and crafts of Bangladesh.

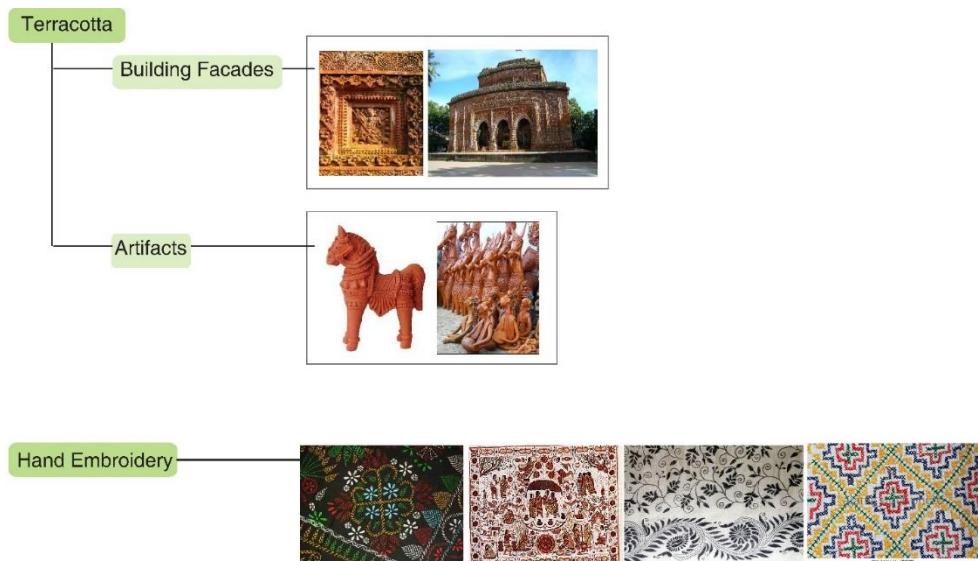


Figure 18: Artifacts and crafts of Bangladesh.

5.8 Brick Jaali Facade

The perforated exterior wall treatment which allows controlled natural light and ventilation for the hot-humid climate, called jaali, is a very common practice in Bangladesh. Masonry units are usually used to form a jaali, or molding and casting of mud/concrete can make unique jaali units for facades.

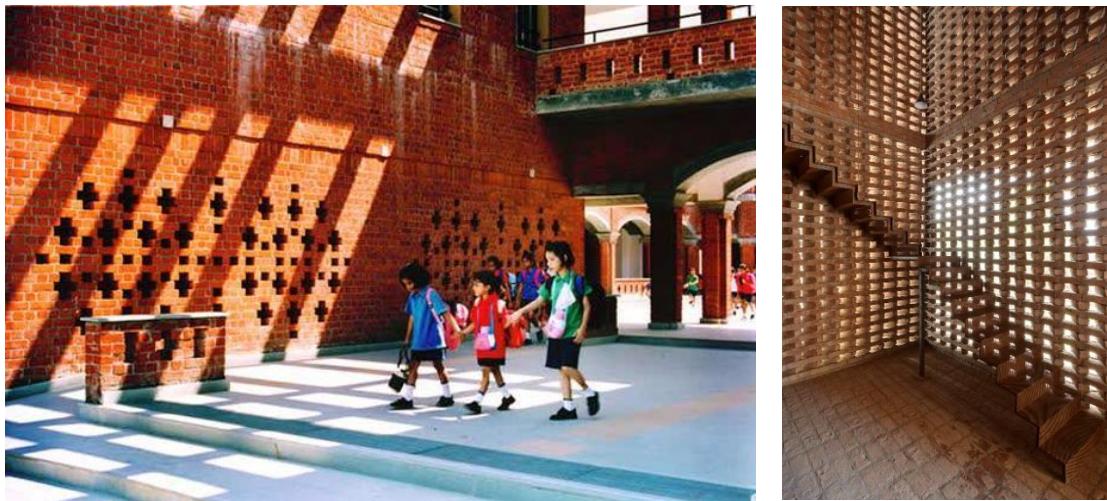


Figure 19: Brick Jaali walls in interior and exterior.

5.9 Flood Fighting Strategies in Bangladesh

Bangladesh is a riverine country and a huge delta. It has about 700 rivers.³⁴ The country is a low land with threats of intense flooding. Regular flooding does not stop life because there are various strategies for flood fighting. Most common strategy for flood fighting is the embankment of the river, which is

³⁴ Banglapedia: National Encyclopedia of Bangladesh. Banglapedia. 2012. Web.

not a sustainable solution. Failures of embankment are a regular occurrence during high tidal surges.

The more sustainable solution that has been being practiced in some areas is ‘living with water’. I studied this solution, where there are floating school and markets. In this strategy, the everyday socio-economic activities, like weekly-markets are done in boats. This is a sustainable strategy that has been being practiced for long in some areas of Bangladesh. By this, the flood does not interrupt the activity and they have the advantage of using the waterways.

This strategy is now evolving towards different aspects. For example, floating schools in boats are being practiced nowadays in flood-affected zones of Bangladesh.

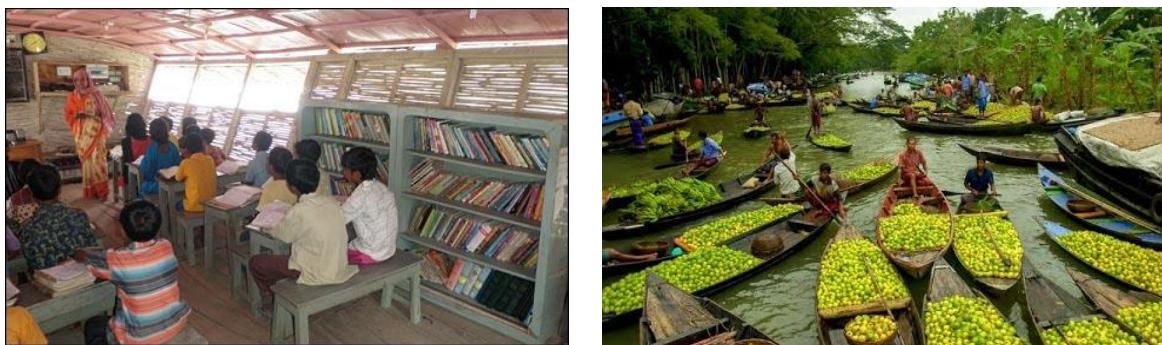


Figure 20: Flood fighting strategies in Bangladesh.

CHAPTER 6

PRECEDENT STUDIES

Precedent studies were chosen to explore different aspects of the thesis.

6.1 Friendship Center, Gaibandha, Bangladesh

Architects: Kashef Mahboob Chowdhury/URBANA

Location: Gaibandha, Bangladesh

Area: 2897.0 square meters.

Project Year: 2011

Photographs: Eric Chenal, Anup Basak, Kashef Chowdhury

Reason for choosing this precedent: This project was chosen as my first precedent for its usage of the courtyard as gathering space and tool of building formation. It has open to sky courtyards with various degrees of privacy, which allows the courts to be enlivened by multiple activities. Its response to the site and context and the way of translating the concept into programmatic spatial organization are additional reasons to choose this project for precedent study.

6.1.1 The site

The Friendship Center is a non-governmental organization (NGO) which works in the poorest areas of Bangladesh, mostly riverine islands. The aim of the project was to facilitate the areas of limited access and opportunities with training programs arranged by the NGO themselves. Income generation by renting the space for various meetings, conferences, and other training programs was another focus of this project. The site is in rural Gaibandha, a low lying land that has threats of flooding and the soil has a low bearing capacity. The architects

says, "The low-lying land, which is located in rural Gaibandha where agriculture is predominant, is under threat of flooding if the embankment encircling the town and peripheries break"³⁵



Figure 21: Friendship center, Gaibandha, Bangladesh.

6.1.2 Concept, Context, and Design Formation

The site is situated in a zone with flood and earthquake threats. This project had an extensive program, but the funding was limited. With the low

35 "Friendship Centre / Kashef Mahboob Chowdhury/URBANA." ArchDaily. September 07, 2013.

budget, it was not possible to raise the structure above the eight-foot flood level. The designers chose to build an embankment for flood protection. The structure is built directly on the existing soil with load-bearing masonry.

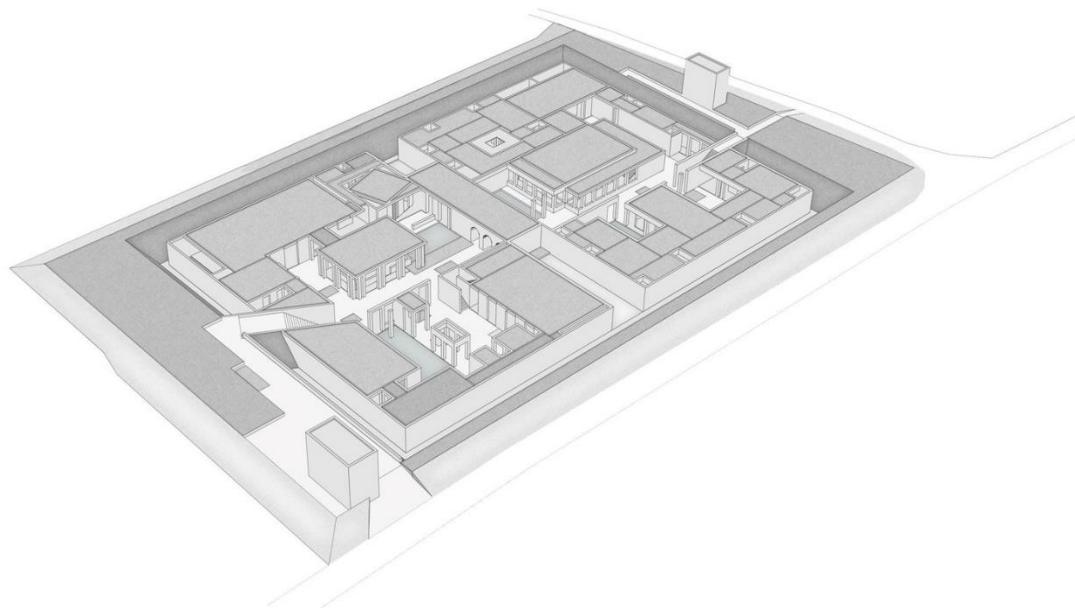


Figure 22: Axon of the full view.

The project's concept derives from a ruin located nearly of the site. "As in construction, so in conception - the complex of the center rises and exists as a memory of ruins, alive with the memory of the remains of Mahasthan (3rd century BC), some sixty kilometers away."³⁶

³⁶ "Friendship Centre / Kashef Mahboob Chowdhury/URBANA." ArchDaily. September 07, 2013.

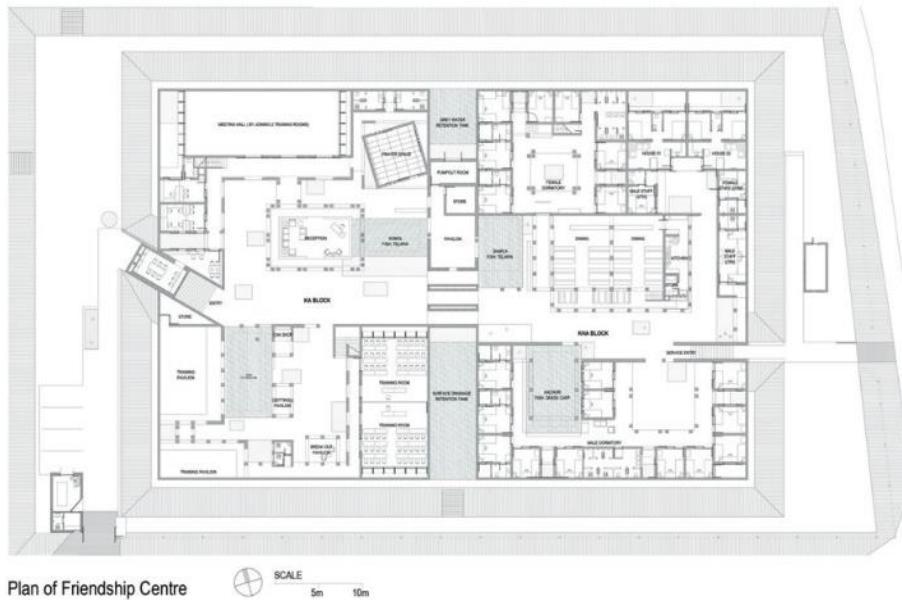


Figure 23: Floor plan of the Friendship Center.

The project uses sustainable design approaches. From the architects, "Rainwater and surface run-off are collected in internal pools and the excess is pumped to an excavated pond, also to be used for the fishery."³⁷ The complex is designed with natural ventilation and cooling as it situated in a hot humid climate

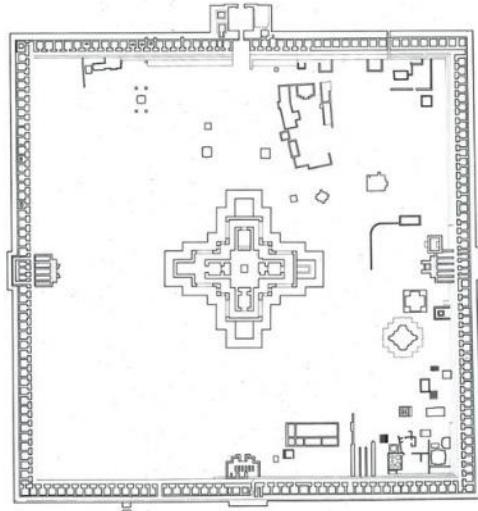
³⁷ "Friendship Centre / Kashef Mahboob Chowdhury/URBANA." ArchDaily. September 07, 2013.

zone. The courtyards help with cross ventilation, the pools and green roofs help in cooling too. The construction and finish material were local handmade bricks.

6.1.3 Program and its Formation around Courtyards

The design can be read as series of programmed “blocks”. The public functions block, ‘Ka’ Block, houses the reception pavilion, offices, library, training/conference rooms, a prayer space, and a small ‘cha-shop’ (tea stall). The more private ‘Kha’ Block, is connected by three archways, houses the dormitories, the dining pavilion, and staff and family quarters.

The courts act as the in-between spaces in this design. The programmatic elements are articulated and connected by scaled courtyards.



Plan of Paharpur Monastery, Naogaon, 770-810 AD (85 Km From Site)

Figure 24: Plan of Paharpur monastery.



Figure 25: One court and the surrounding brick facades.

The courtyard of the Friendship Center is outdoor space which is open to the sky, away from public exposure. Semi-private activities can happen with a degree of privacy from the public. This space acts as a hub for gatherings of multiple user groups, depending on the programmatic functions of the adjacent courts.

6.2 Punjab Kesari Headquarters, Delhi NCR, India

Architects: Studio Symbiosis Architects

Location: Delhi NCR, India

Area: 18,000 square meters

Project Year: January 2017

This precedent is a commercial office building in India. It is a contemporary design and meets all the modern codes of high performance and energy-efficient design, but the design of its facades consider traditional facade treatment of that area and overall connection with the urban environment.



Figure 26: Front view of Punjab Kesari Headquarters, Delhi NCR, India.

6.2.1 Concept of the Design

The design and construction of the Punjab Kesari Headquarters are a fusion of contemporary architecture and traditional Indian architectural style. This office space has an area of over 18,000 square meters. The objective of the project is to reduce heat gain and optimize facade opening ratio for ensuring no need for artificial lighting on a typical day. The animated facade has variations of openings based on solar orientation and function of the interior spaces. The design reflects Indian culture, through its resemblance to the traditional 'jaali' screen pattern.

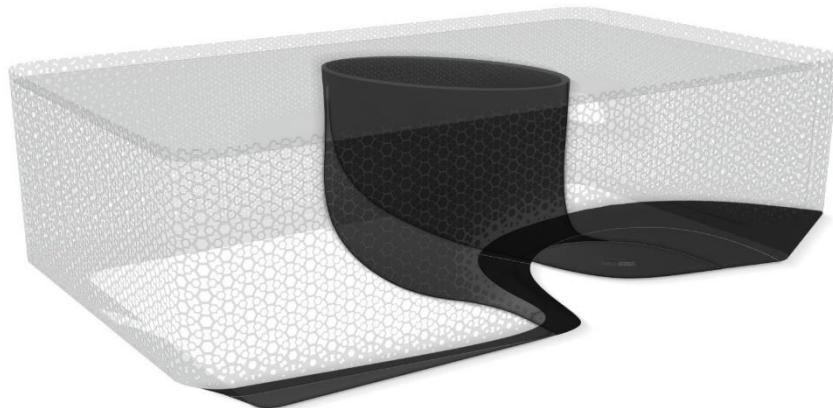


Figure 27: Design concept.

A central atrium connects the various floors, creating a diffuse boundary condition. It allows a visual porosity between people working on different floors. Since the design does not need any artificial lighting in daytimes, it makes the user feel closer to nature and allow to work in natural lighting.

6.2.2. The Screen design concept

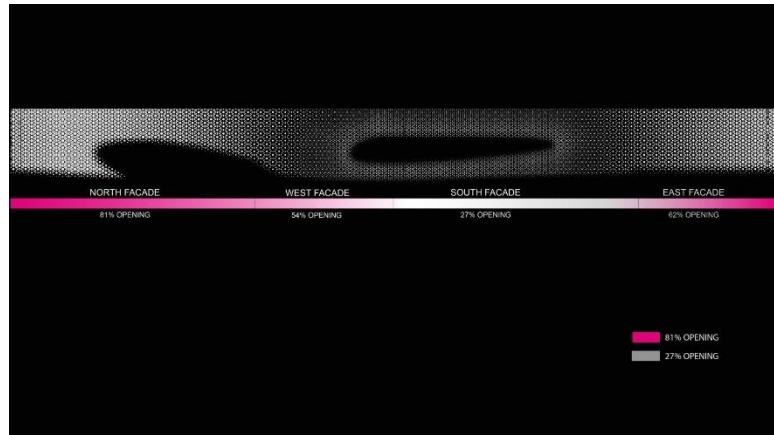


Figure 28: Optimized facade openings.

The architect explained this building's facade design strategy as a new type of hybrid high-performance facade, which address both energy efficiency and traditional design. “A hexagonal pattern was used as a base and through an iterative process, various porosity patterns were generated from it to create different light conditions. This resulted in a variable opacity condition in the facade that had a dual purpose of creating performative architecture and created variable openings on the facade in various orientations generating a design for the facade that is animating and has an inherent meaning. This resulting pattern morphs from 81% opacity on the north facade to 27% opacity on the south

facade, with an intermediate opacity of 54% on East and 62% on west facade respectively".³⁸



Figure 29: Controlled lighting in interior space.

This optimization of natural lighting through design of the atrium and high-performance facade strategy played the major role in the sustainability of this office space.

38 <http://www.worldarchitecturenews.com/project/2016/web>.

6.2.3 The Facade Designing Process

The jaali-themed facade used in this project is made of glass fiber reinforced concrete panels (GFRC). This product is mainly used in exterior building facade panels and as architectural precast concrete. A CNC a mold was created for this facade pattern and was used to cast the GFRC panels.

The curvature of the entrance was also created using this process but using digital fabrication for the mold, for a higher accuracy in the design.

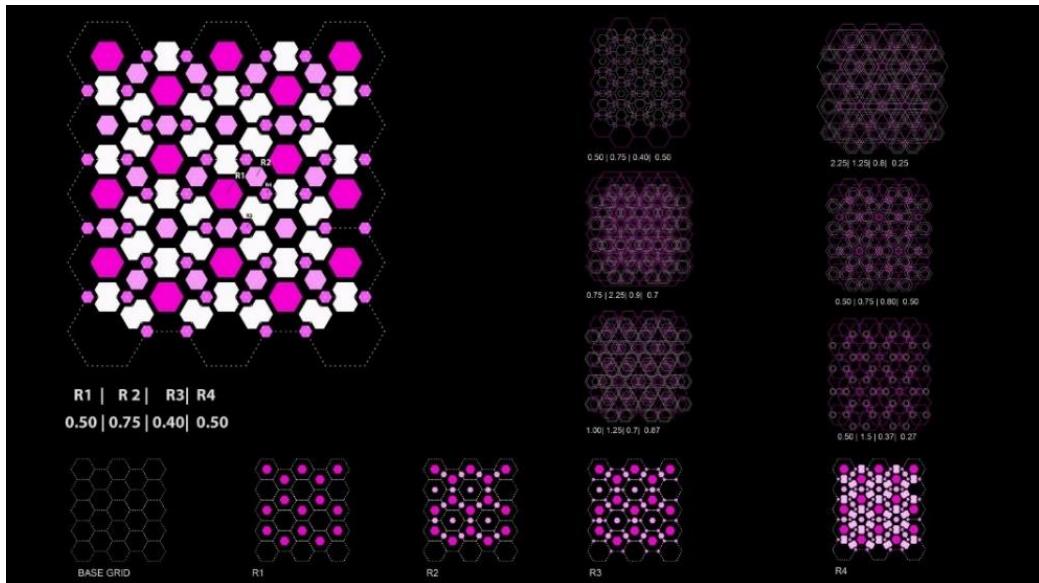


Figure 30: Evolution of facade pattern.

6.2.4 Sustainable Features of the Project

Design decisions evolved from a concern for environmental sustainability. The optimized natural lighting, cross ventilation, and reduction of heat gain were the major sustainable features that are achieved by this design.

The double-layered jaali screen reduces the outside air temperature in front of the glass curtain wall. The cooler air enters the interior and is pulled up through the atrium through the chimney effect. This natural ventilation causes reduction of the indoor air temperature naturally so the cooling load for the air conditioning is reduced.

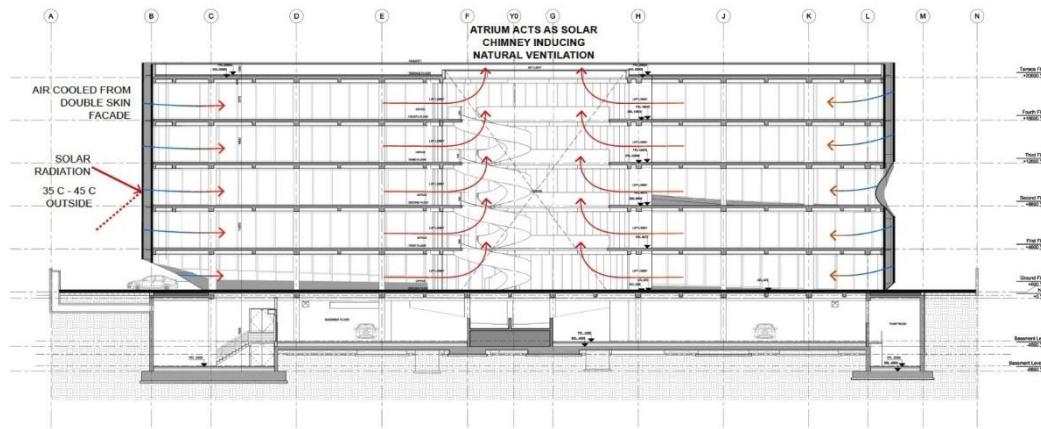


Figure 31: Section showing ventilation diagram.

6.2.5 Consideration of urban context

Punjab Kesari Headquarters is located at an urban corner in Delhi. The project integrates with the surroundings. A sense of invitation is created with an urban lobby where the landscape flows inside the building creating, “seamless

movement trajectories extending into the central atrium space.”³⁹ Besides being an office space, the building has an intensely shared, not-open to sky courtyard-like zone that allows for informal interaction.

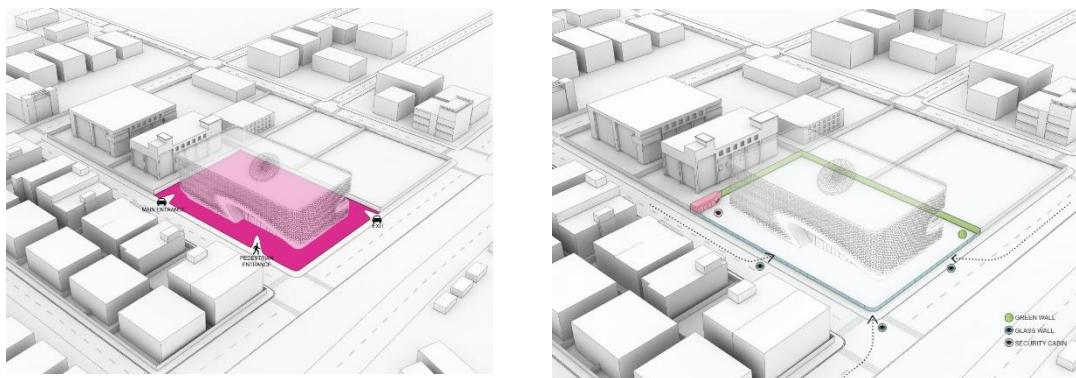


Figure 32: access points and site edge conditions.

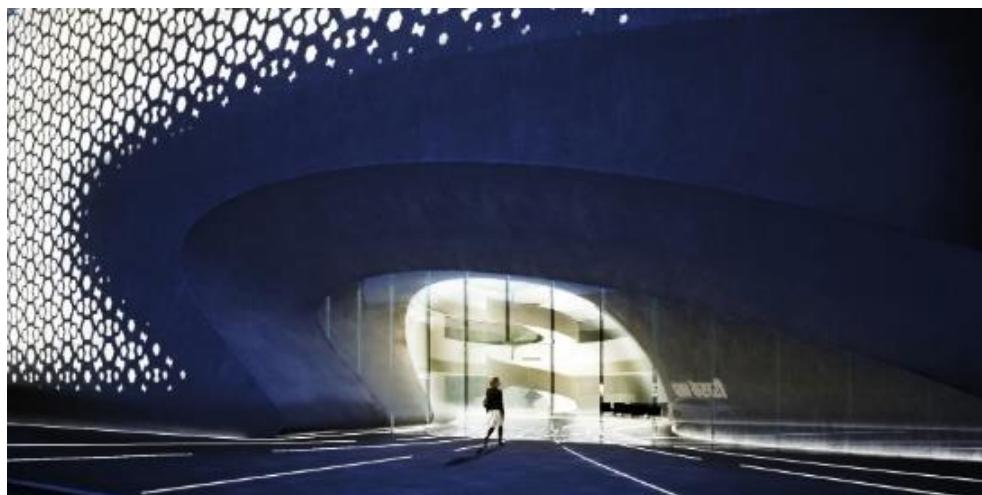


Figure 33: Relationship with the urban environment.

39 <http://www.worldarchitecturenews.com/project/2016>. Web.

The mass of the building is an almost uniform three-dimensional rectangle, but reduces its scale at the ground level with a human-scale entrance.

6.3 Aperture 538, Brooklyn, NY, U.S.

Architects: Luca Andrisani Architect

Location: Brooklyn, NY, USA

Area: 13090.0 square feet

Project Year: 2016

Photographs: Tai Zhang, Halstead Property Development

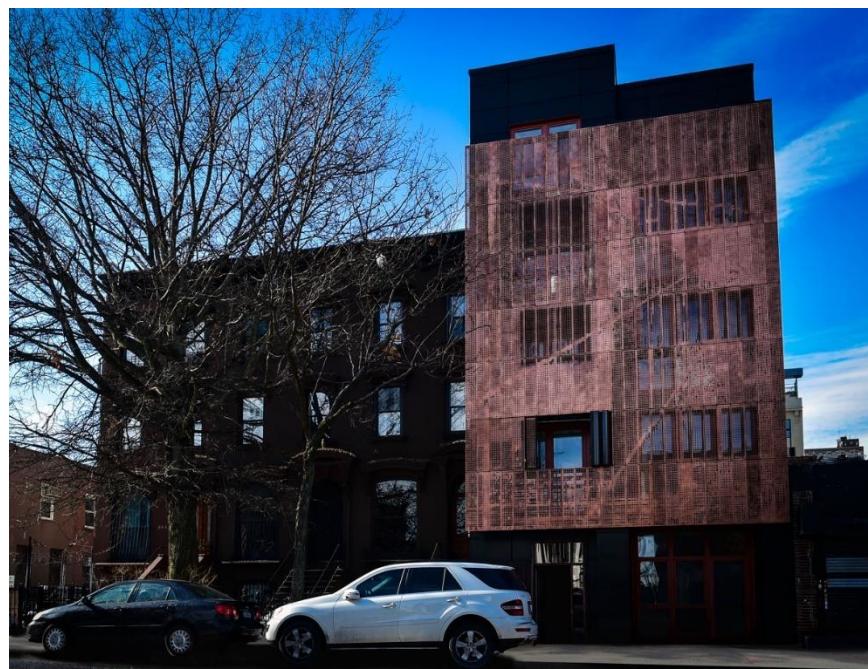


Figure 34: Aperture 538, 538 Washington Ave, Brooklyn, NY.

The reason for choosing this project as a precedent is its copper screen that has a 'Jaali facade' effect on the interior spaces as well as the exterior of the building. Aperture 538 is a 10-unit, multi-family residential project in Brooklyn.

6.3.1 Concept behind the Copper Screen



Figure 35: Copper screen from the interior.

The perforated copper screen is used as a facade treatment of the street side of this residence. The other sides are copper panel cladding that have regular openings. This perforated screen gives the residential units a fair amount of privacy from the busy urban environment and provides for light and air requirements. "The flat, warm brown face of the building is meant to continue the rhythm of brownstones present on Washington Avenue."⁴⁰ The street-facing copper screens are operable. The shutters in front of windows and outdoor space for each units can be moved to allow the residents to have views out to the beautiful street view.



Figure 36: Typical floor plan of the residential unit.

40 <https://www.archdaily.com/781771/aperture-538-luca-andrisani-architect>. Web.

As a result, this residential architecture has a dynamic look on its front facade. “Where light filters through, an iconic image of Brooklyn is glimpsed, and activity is visible”.⁴¹ These perforated copper panels are working almost like how brick ‘jaali’ works in a hot and humid climate, such as in Bangladesh. It is allowing controlled light and degree of privacy.

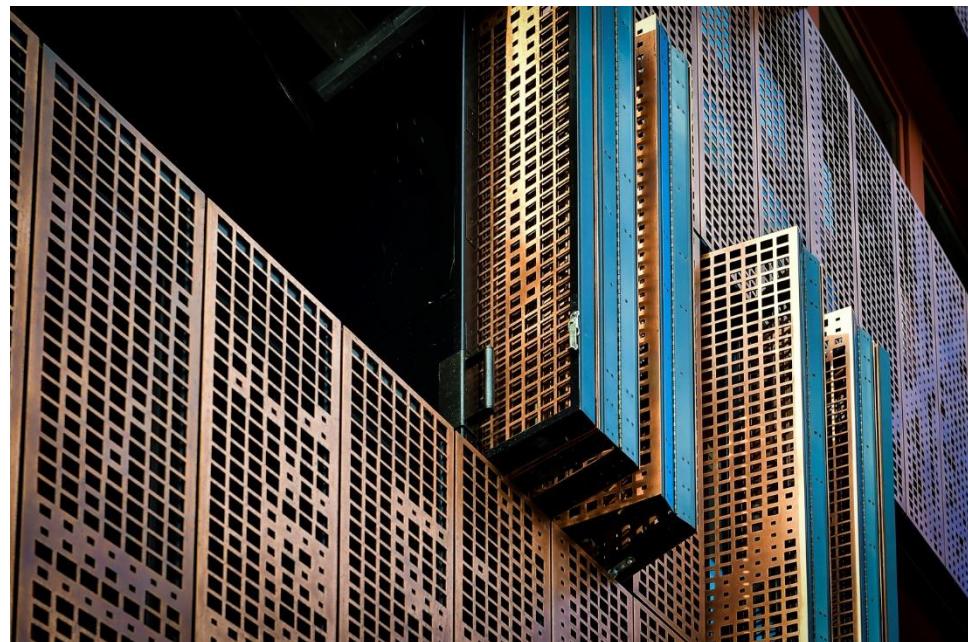


Figure 37: Operable panels of the screen.

41 <https://www.lucaandrisaniarchitects.com/multifamily/aperture538>. Web.

CHAPTER 7

SITE SELECTION AND ANALYSIS

As I am designing for the Bangladeshi population living in New York City, my site selection depended on the population and inhabitation pattern of Bangladeshi diaspora there. Selecting a proper the site was a very important part of the design process.

7.1 Site Selection

From the census data analysis, the densest Bangladeshi population in New York City is in the borough of Queens. The data mentioned in chapter four shows that a site near the Grand Central Parkway would have been a suitable area as it is located equidistant from the three most densely populated communities, however that location is nowhere near to the heart of the community.

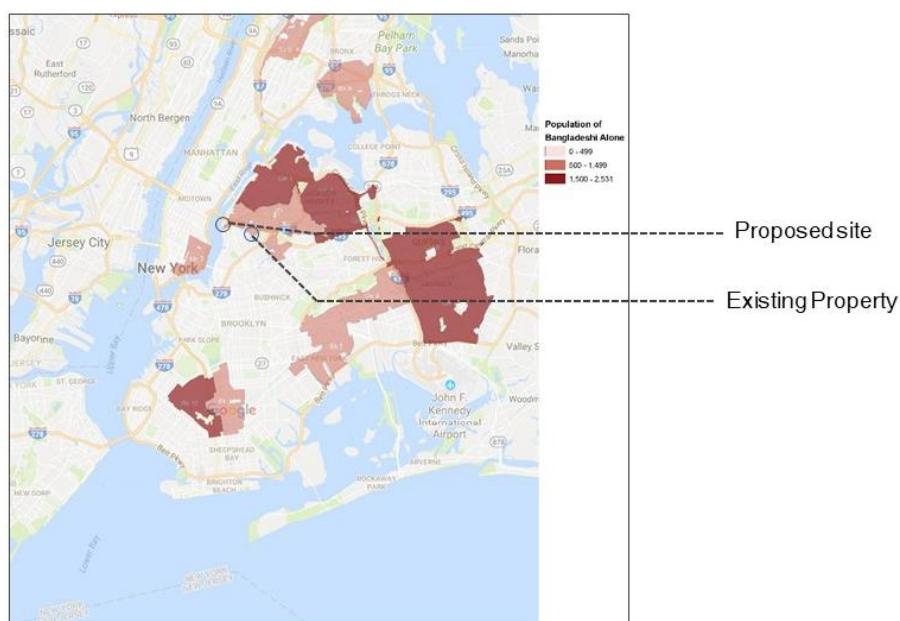


Figure 38: Site selection.

The Bangladesh Society is situated near the heart of the greater Bangladeshi community in Queens.⁴² They own a property on Whitney Ave, Elmhurst, New York City, which provides the home for their administrative and educational activities. This is within proximity to a significant population of Bangladeshis and is working well as a business center. So, the location of this existing organization was another parameter to choose the location of the new site.

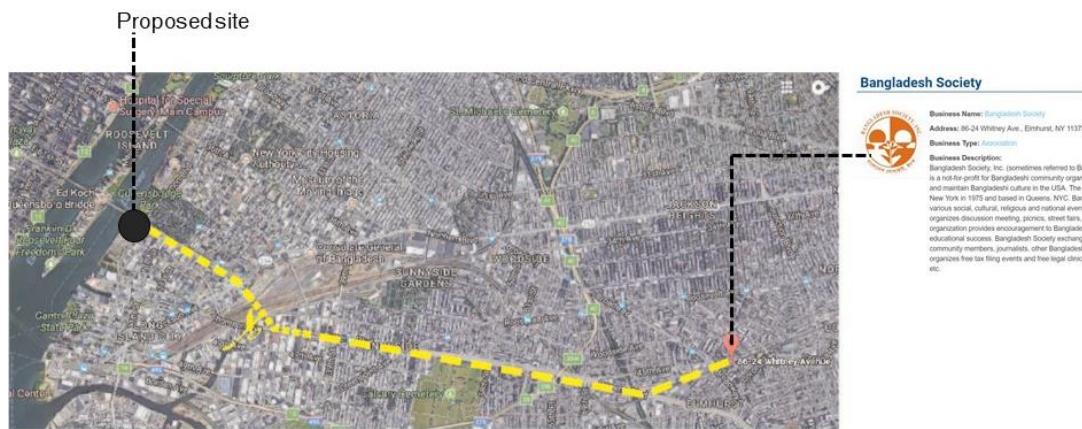


Figure 39: Distance between existing and proposed- 5miles, well connected.

The selection of an appropriate site is also influenced by the program that has been formed in chapter five. One of the very important program needs is huge event space to house approximate 5000 people at a time, twice per year for

42 www.bangladeshcircle.com/web.

cultural events. So a site with an adjacent public accessible open space is the best choice for this, understanding that whenever the public open space needed for large events, the public space can be used.

New York City property zoning and accessibility of access to public transportation were also considered while selecting the site. I looked for a site that had zoning that would accept a cultural center and for the bus, subway access within a 10-minute walk, as well as car, pedestrian, and bicycle access.

From all those criteria I chose a site along Vernon Boulevard at the end of Queens Plaza South, in the Long Island City neighborhood of Queens, NY. The site is adjacent to Queensbridge Park, which is a 20-acre public park and is bounded on the west by the East River. There is no vehicular road in between the site and the park, but the zone beneath the Queensboro Bridge, which travels above the north edge of the site, is used for Department of Public Works vehicles. There are two public bus stops within a five minutes walking distance. A subway train station is within 10 minutes walking distance. There is bicycle route along with the sidewalks which also connects to the Greenway, a pedestrian and bicycle pathway that follows along the river.



Figure 40: Site properties.

7.2 Coastal Flooding

This site is right beside the East River and it has possible flooding threats by coastal flooding.⁴³ Flood projection maps provided by FEMA are shown in Figure 41.

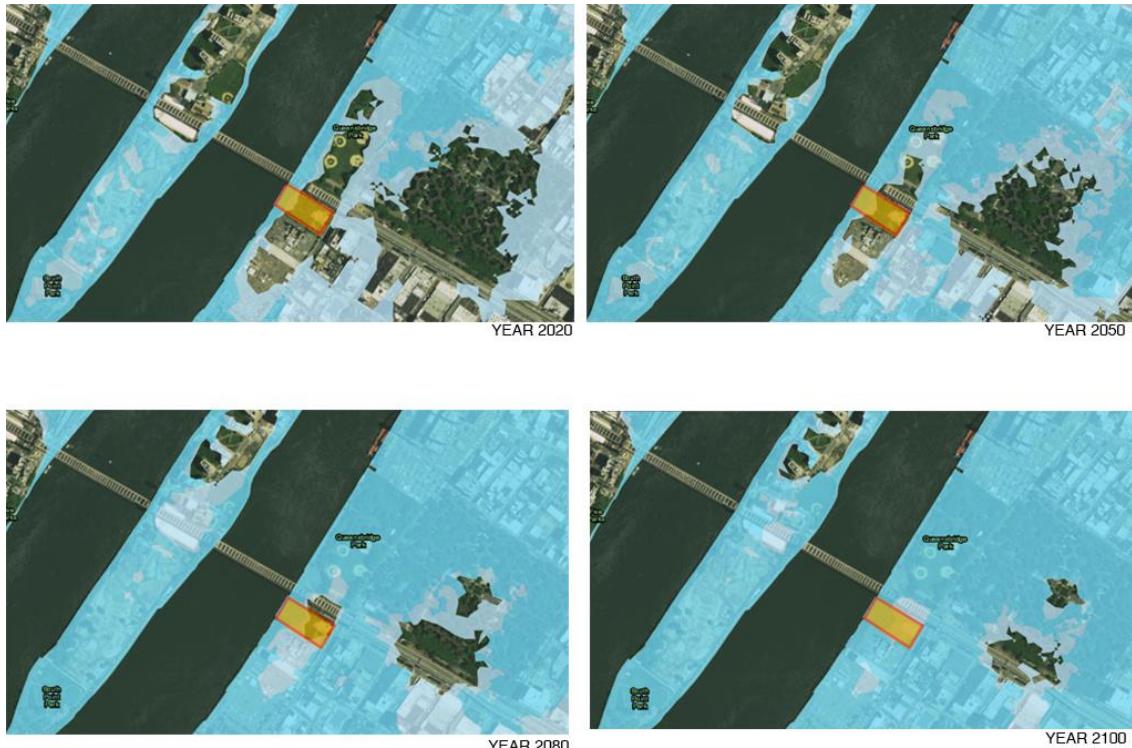


Figure 41: Flood projection maps by FEMA with site marked.

7.3 Site Surroundings

The surroundings of this site are mixed kinds. The site is in a manufacturing zone and has a power generation plant located to the south. Queensbridge Park

⁴³ <https://www.fema.gov/msc-theme-template-v1>. Web.

is located to the north, as is the Queensboro Bridge, which carries car traffic from Manhattan to Queens across the East River. Directly opposite of the entry road along Vernon Boulevard, there is an eight-story hotel, Penthouse 808. To the north of the bridge, across Vernon Boulevard, there is the largest middle-income housing development in New York City. An important piece of architecture exists in the site which was built in 1892.⁴⁴ It was the office for a terracotta manufacturing company, the ‘New York Architectural Terra-Cotta Works’.

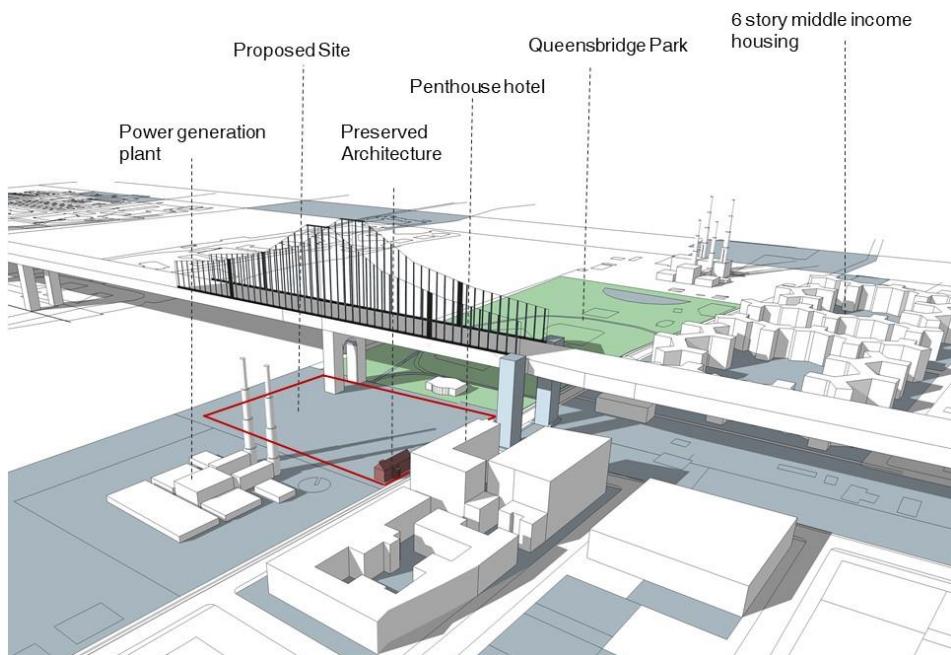


Figure 42: Site surroundings.

⁴⁴ the-terracotta-house-or-what-is-that.html. web.

7.3.1 New York Architectural Terra-Cotta Works

This building was built as an office of a terra cotta building material manufacturing company which used to be situated on site back in 1886.⁴⁵ This was the front office on the industrial complex surrounded by brick walls. The design of this piece of architecture was done by, Francis H. Kimball. It is done in the Tudor Revival Style, which is a style has the emphasis on the simple, rustic, and the less impressive aspects of Tudor architecture, imitating in this way medieval cottages or country houses.⁴⁶



Figure 43: New York Architectural Terra-Cotta Works building.⁴⁷

45 Ibid, 8.

46 brighthub.com. web.

47 <https://www.6sqft.com>. Web.

7.3.2 Site Images



Figure 44: Queensbridge Park



Figure 45: View of Manhattan Island and Roosevelt Island.



Figure 46: Entry way of the site.

CHAPTER 8

DESIGN OVERVIEW

8.1 Design Concept

Throughout the development of the project, I have viewed cultural diaspora as a journey through experiences. I portrayed the beginning of the journey from the starting point, the homeland, which is the geographical home of the culture (Bangladesh). This diasporic group started their journeys for multiple reasons and have chosen multiple pathways. The destination for the whole community is same geographical location (the United States - New York City) but not all had the same experience. The cultural journey started right after they left Bangladesh but doesn't finish after reaching the U.S. The cultural journey is open-ended and not binary. It has multiple layers and levels that can be chosen consciously or can happen as reactions of many acts.

This journey through experiences forms the design concept of my Bangladeshi Cultural Center.

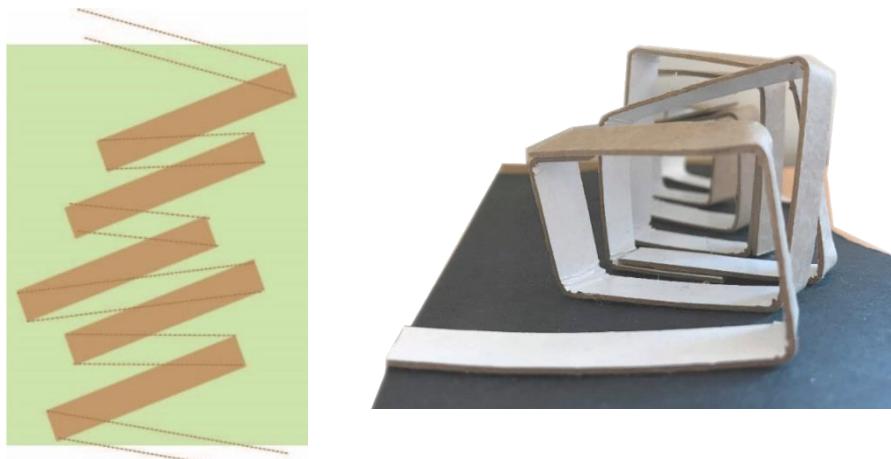


Figure 47: A journey through experiences.

8.2 Program Articulation

In chapter five, I described the factors that formulated the programmatic elements of this project. The articulation of those programmatic elements on the site was challenging. The site has quite a few very powerful features that I have addressed in my design.

8.2.1 Program with Square Footages

1. Business Incubator 8000 sf

To house spaces for Bangladeshi business owners to set up small shops (on the ground floor and courtyard level) and rentable offices spaces on (upper levels).

2. Education Center 4000 sf

Designed to support classrooms and meeting spaces for English and Bengali language lessons, elderly education, business training etc.

3. Indoor Event Space 8500 sf

This houses the social and cultural events with participation of up to 700 people. This space is also rentable for private events which can also be a mode of income generation for the community.

4. Display Gallery 8000 sf

The gallery area has formal and informal display galleries that are a significant part of the building circulation. The gallery becomes the primary pathway of the journey.

5. Restaurant 3000 sf

This area serves authentic Bangladeshi cuisine with other contemporary foods has outdoor and rooftop dining with a great view of the designed urban oasis as well as Manhattan Island.

6. Administration 1500 sf

This area supports the existing administrative programs and meeting rooms.

7. The urban oasis

This is the huge landscape at the waterfront. It has its own retention pond with decks over water. The walkways are connected with Queensbridge Park's existing pathway loop but it has its own character.

8.2.2 Site Edge Conditions



Figure 48: Site influences.

Each of the site's edge conditions is very different. The above collage represents those edge conditions (The East River, power generation plant, Vernon Boulevard, and Queensbridge Park are the edges) and shows the vertical edge condition too, which is the Queensboro Bridge; a powerful visual element. Figure 49 identifies the different edge conditions and how my programs are responding to that.

The street edge has the preserved terracotta building, which I choose to retain to house my program. A new building was designed to contain the administrative and educational facilities. A commercial incubator is also located at the street edge and is the most accessible to the city people from multiple levels. The indoor event spaces are oriented towards the park and have an inviting manner towards everyone.

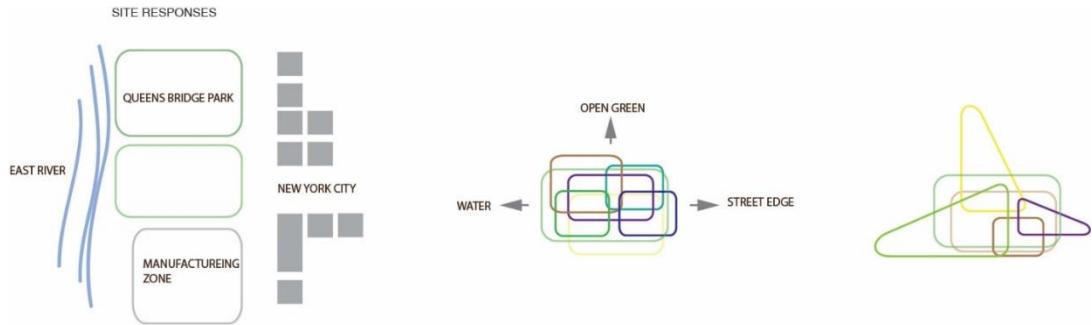


Figure: 49: Site edge conditions and responses.

The biggest square footage of program is the outdoor event space, which is responding to the Queensbridge Park, which can house the bi-yearly outdoor cultural celebration events. I have also designed the open space of my site that I created along the water edge, to connect with the urban oasis of the park. This can be a space for interaction among the Bangladeshi community and locals. Along the water edge I have created an urban oasis which is facing Manhattan Island. This park-like landscape will house the extended Greenway and be a part of the bicycle route.

8.2.3 Site Moves Made in the Design Process

One site design strategy was to activate the street edge with the business incubator. The main entrance to the cultural center is designed in between the existing terracotta building and the new building. The design becomes more flexible with the distance from the street edge and it translates into a park. The ground level on the park side is raised to connect the building to the site at different levels. A retention pond is designed in the landscape between the cultural center buildings and the water edge, so that flood water can flow to the

East River if the pond overflows. There is an option open here to develop the pond further for rainwater collection.

8.3 Translation of Conceptual Idea to Programmatic Needs

8.3.1 Courtyard as a Parti

Chapter five, Research Findings, addressed the formation and growth of the rural Bangladeshi house. The multiple degrees of the courtyard are working as the space articulation factor. The indoor-outdoor relationship of enclosed spaces is made harmonious by the use of semi-private courts. I took the physical relationship of courtyards to interior spaces as my parti. This works as a key factor of spatial organization of my project. Courtyards are used in my project in the interior and exterior, and on multiple levels and layers. This supports my concept of a complex journey through different degrees of exposure and experiences. In my project, courtyards offer exposure to different types of thresholds which people can choose depending on their destination.

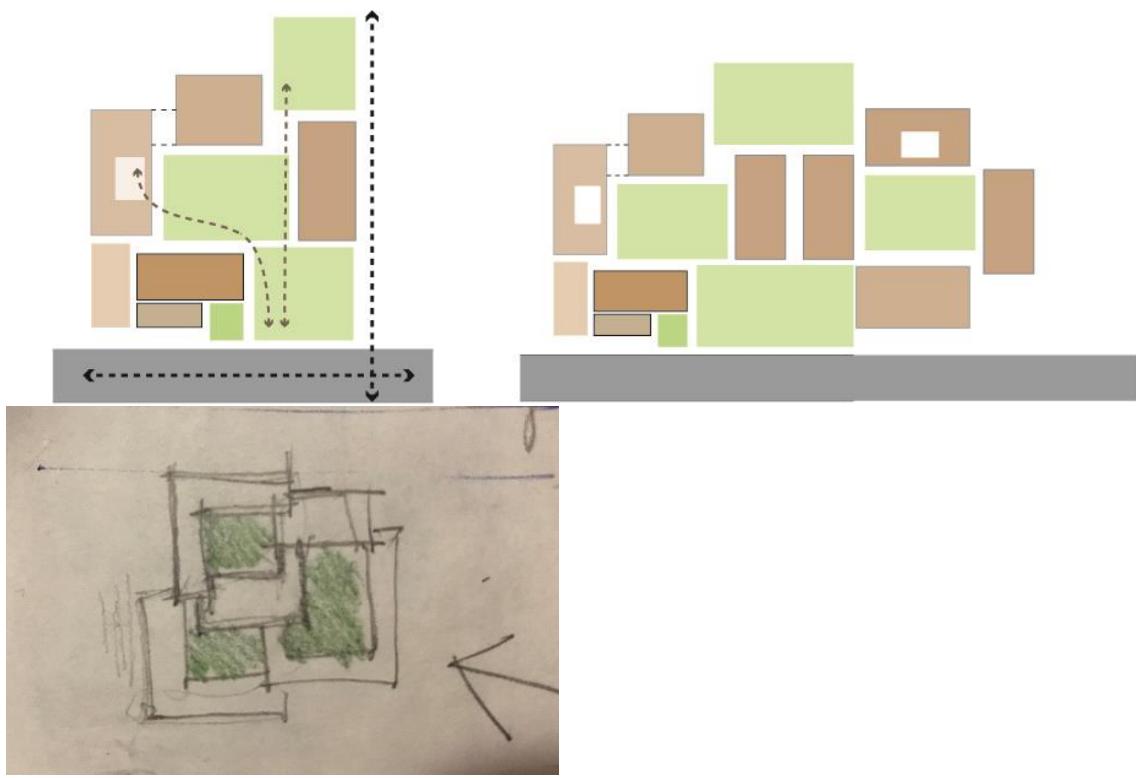


Figure 50: Diagrams of courtyards of Bangladeshi rural house formation.

8.3.2 Jaali as an Influence

I have taken Brick jaali façade as an influence on the façade design. The jaali has a property of controlled and subtle effect on the interior and exterior environments. The courtyards I have designed require activated facades to activate the spaces. The layers of jaali screen can create that feeling and that is a common practice in Bangladeshi architecture. The site's existing terracotta building inspired the use of brick arched facades on the courtyard level which create a human scale walkway zone. The jaali have influenced me to use

perforated copper panels on some facades, which have a pattern that responses with the functionality, solar orientation and need of privacy and view.

8.3.3 The Beginning of the Journey and its Destination

The spaces are carefully designed so that they represent the concept all the way through the building. The journey begins at the street edge, the entrance of the building, and continues until the water edge. Users experience their own options for journeys through the building as they access different functions.



Figure 51: Process of design in different phases.

The primary building entrance is found on the east side of the site, on Vernon Boulevard, where the new and old come together. The cultural center is inviting as people walk from either of the nearby bus stops. The main entrance is designed as a break between old and new and as one enters, they start the journey through experiences as this is the beginning of the display gallery. After the entrance, one must choose a path. Inviting stairways and layered indoor-outdoor relationships offer a range of experiences to the traveler. The options lead to different functions such as administrative offices, classrooms, retail shops, office spaces, restaurant, indoor event space, and outdoor courtyard spaces. The path through the gallery leads to the urban oasis at the water edge, where the experience is very different from the street edge.

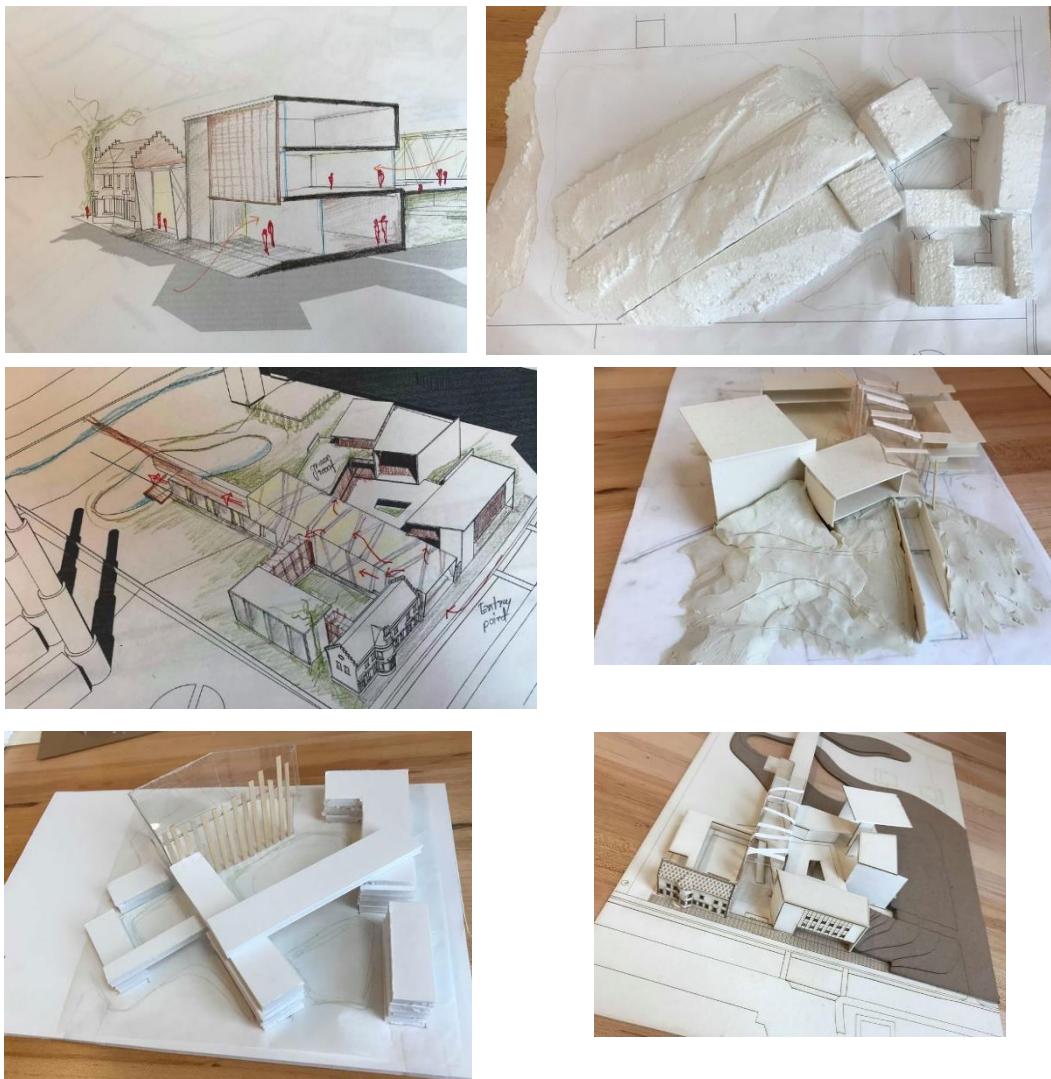


Figure 52: Process of design in different phases.

For special days, like Bengali New Year, the entrance from the adjacent park will be used as the primary entrance. Non-Bangladeshi people will also feel invited from the street side and park side as the spaces are designed to be more perforated than enclosed. This is intended to create opportunities for cultural interchange.

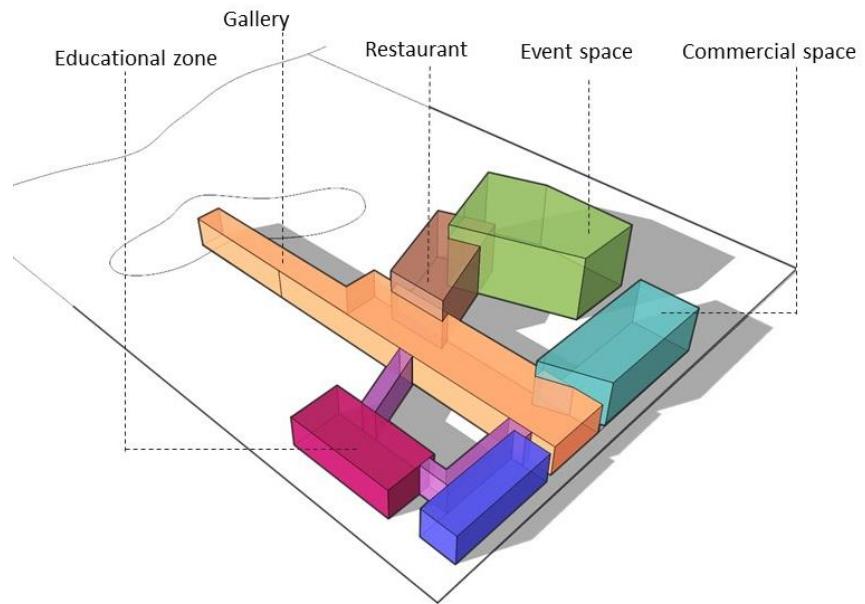


Figure 53: Program articulation on the site.

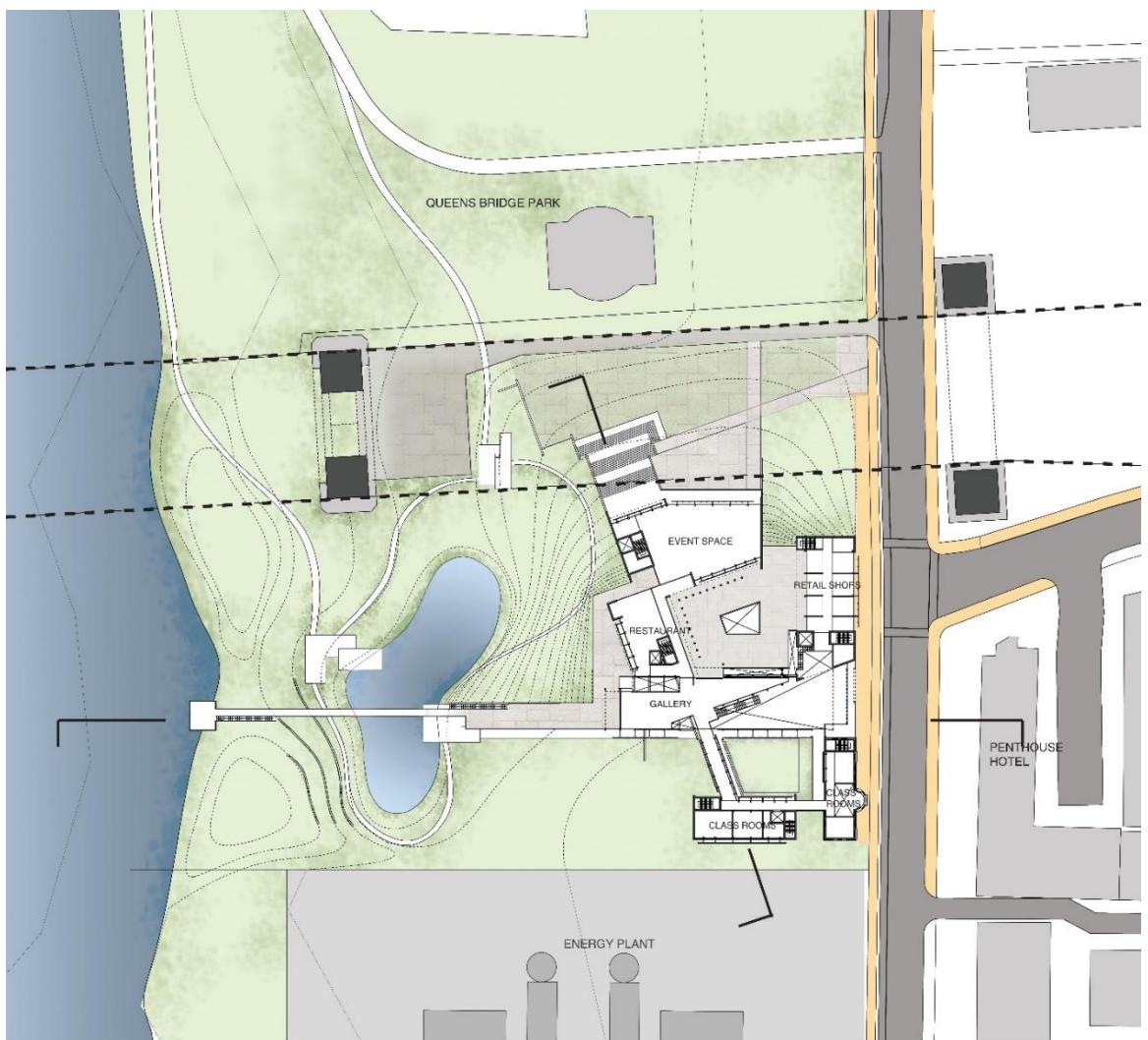


Figure 54: Plan at 16 feet level.



Figure 55: Relationship with the Vernon Blvd.



Figure 56: The street edge with the surroundings.



Figure 57: The inviting view from the park.



Figure 58: The urban oasis.

8.3.4 Material Selection and its Impact on Spaces

Interior and exterior materials are chosen after thinking about how they will have an impact on the overall environment. Brick and concrete cladding are used for solid walls. The brick cladding of the walls parallel to the terracotta building at the street edge make a composition of similar colors. Glass curtain walls with copper screen contributes to the overall color scheme of the cultural center complex. The uniformly patterned copper screen inspired from 'jaali' is used differently to respond to the solar orientations, program, and site edge conditions.



Figure 59: Section showing the relationship with the existing terra cotta building.



Figure 60: Site section through gallery showing the indoor and outdoor relationship.



Figure 61: Section through courtyard in between gallery and classrooms.



Figure 62: Interior space of the gallery (the beginning and ending of the journey).

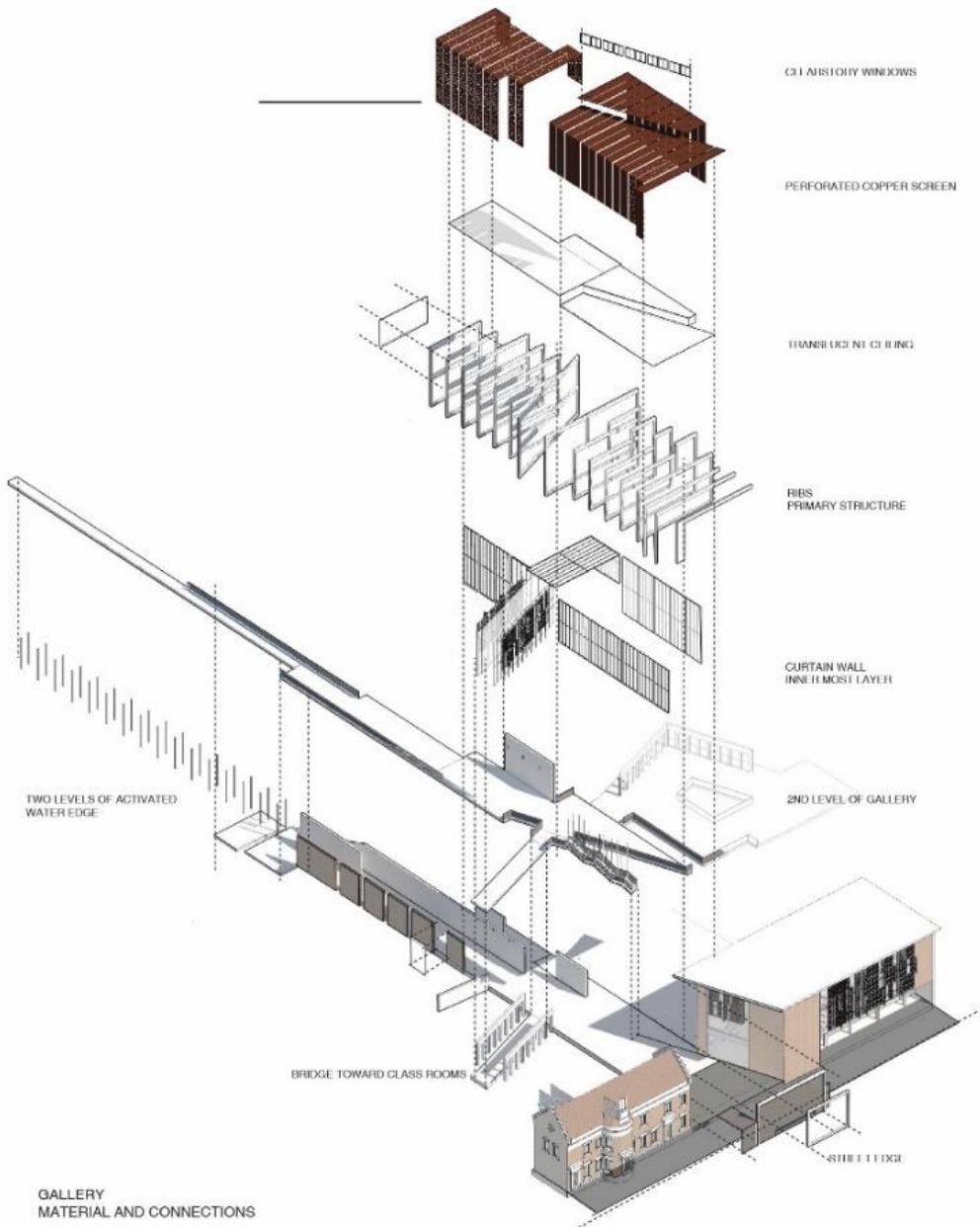


Figure 63: Material layering and structure of the gallery space.

8.3.5 Facade Design Strategies

The perforated copper panels are designed to respond to the solar orientation. A dense pattern on panels parallel to the curtain wall are used for the south and west treatments. For north façade, copper screens are designed to be perpendicular to curtain wall to allow more natural light. The gallery's copper facade is held away from the curtain wall and the space in between is designed as a walkway.

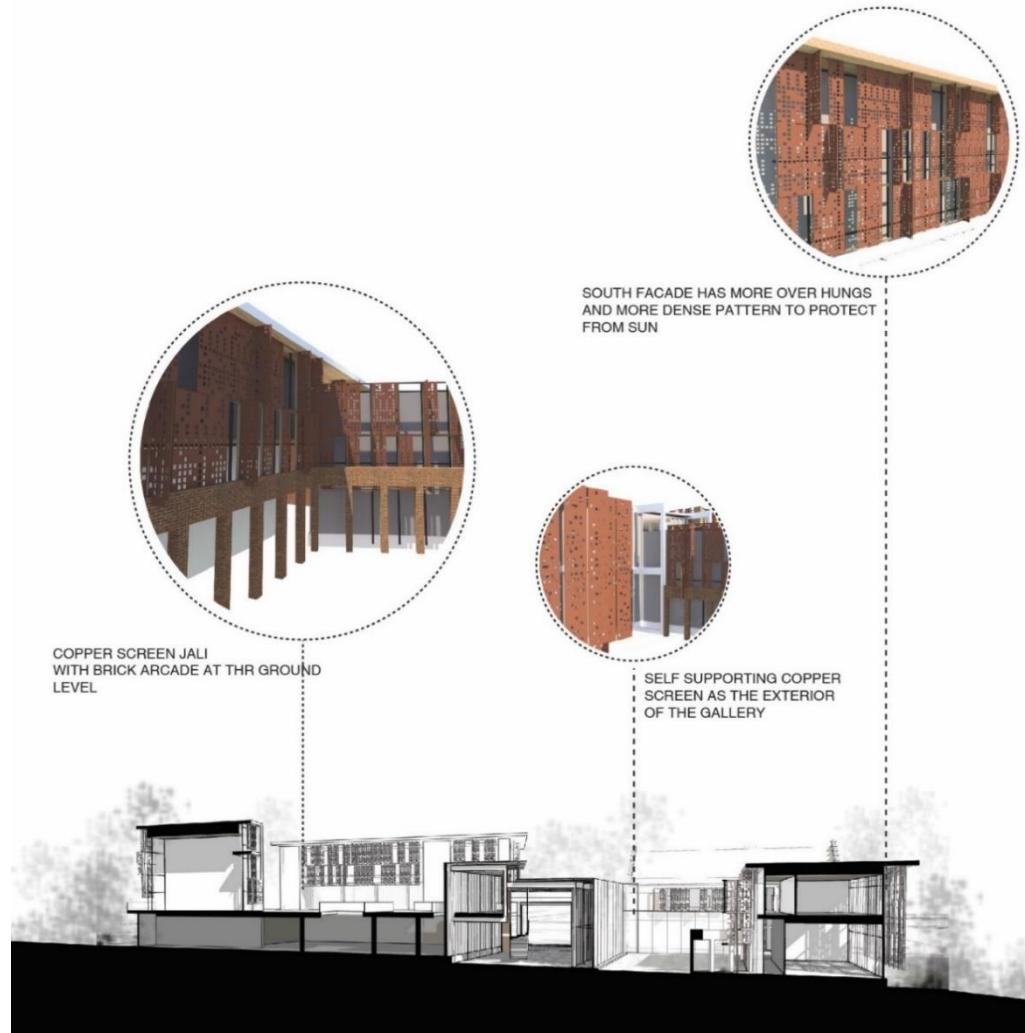


Figure 64: Facade treatments responding to solar orientations and programs.

CHAPTER 9

PROJECT IMPACTS AND BENEFITS

Bringing together social, cultural, and economic aspects of a community has several benefits. By allowing the community to share resources, this center will become a beacon of the Bangladeshi community of the New York City area. This cultural complex with an urban oasis at the water edge will become a primary gathering space for not only the Bangladeshi community, but the overall community of the area as well. The design strategy of connection with the park, the water, and city will have a great impact on the various cultural identities.

The Bangladeshi Cultural Center is designed for a cultural diasporic group; one that is always transforming in response to multiple influences. Its design recognizes that ‘production of identity’ is the true ‘cultural identity’ of a cultural diasporic group. This center will welcome these influences in a positive manner and its inviting and flexible character and will make it a multicultural hub.

The socio-economic uplifting for Bangladeshi community was also an objective of this thesis. This has been ensured in the responsive choice of programmatic elements and careful articulation of spaces with the site and context.

The Bangladeshi Cultural Center has started with the concept of the journey through experiences. The building is designed to make that happen in a meaningful and beautiful way.

CHAPTER 10

CONCLUSION

On April 13th, 2018 the final design proposal was presented in front of a diverse jury. The final design proposal received a good response from the jury panel.

Comments from the jury were about how this design proposal is fulfilling its conceptual aspect as well as the functional requirements. Jurors also discussed the global culture and how this design proposal is going to create a positive impact on the increasing localism and nativism by serving the Bangladeshi community and offering opportunities for the greater community to engage and interact. Jurors were interested in the flood fighting strategies that are being used in Bangladesh and how they can be a precedent for the design for coastal flooding in New York City and how this could have more emphasis on the project.

If I get a chance to work more on the design development process, I would continue to work on different façade treatments. The jaali façade style that I designed for the project has a huge range of interpretations. That I would like to further develop. Another area for continued work is the development of the landscape towards making it a more sustainable park that addresses sea water level rise.

In summary, I feel that my design for a Bangladeshi Cultural Center does achieve my goals of creating a space for the Bangladeshi diasporic community to living in the New York City.

APPENDIX: ORAL THESIS DEFENCE PRESENTATION

Boards and pictures of final model

Board1:

BANGLADESHI CULTURAL CENTER VERNON BLVD & 41ST AVE, LONG ISLAND CITY, NY 11101

CULTURAL DIASPORA: A JOURNEY THROUGH BOUNDARIES
SINCE GLOBALIZATION DE-TERRITORIALIZED THE
BORDERS OF COUNTRIES, THE BOUNDS OF CULTURES
BECOME BLURRED, CONTESTED, OPEN-ENDED, UNSTABLE,
AND FREQUENTLY MODIFIED.
THE MOBILITY AND REPLACEMENT OF OUR BODIES
DESTABILIZE OUR TRADITIONAL SENSE OF IDENTITY THAT
WAS USUALLY DEEPLY ROOTED IN A SENSE OF
NATION-STATE.
ON THE OTHER HAND, "LOCALISM," OR "NATIVISM,"
SIMULTANEOUSLY INCREASES AS REACTION AND
RESISTANCE TO THE GLOBAL FORCES FROM THE LOCALS.

TARGET GROUP: THE BANGLADESHI POPULATION LIVING
IN NEW YORK CITY

NEW YORK CITY IS HOME TO THE LARGEST BANGLADESHI
COMMUNITY IN THE UNITED STATES, THE HIGHEST LEGAL
PERMANENT RESIDENT BANGLADESHI IMMIGRANT POPU-
LATION.

THE BANGLADESHI-BORN IMMIGRANT POPULATION HAS
BECOME ONE OF THE FASTEST GROWING IN NEW YORK
CITY, COUNTING OVER 100,000 BY 2011 ALONE.

THE CITY'S BANGLADESHI COMMUNITY IS SPREAD OUT IN
THE JACKSON HEIGHTS NEIGHBORHOOD WITHIN THE NEW
YORK CITY BOROUGH OF QUEENS.



ARCHITECTURAL INFLUENCE

HISTORY OF ARCHITECTURE OF BENGAL HAS IMPACT OF MULTIPLE FORCES THROUGH OUT
TIME.

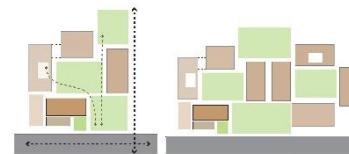
OLD ARCHITECTURAL EVIDENCE: OLDEST FOUND IS FROM 700 BC.

ARCHITECTURE CHANGED WITH MULTIPLE POLITICAL INVADERS.

THROUGHOUT HISTORY BUDDHIST, HINDU, ISLAMIC, INDO-EUROPEAN, COLONIAL, MODERN
ALL THESE HAVE THEIR INFLUENCE IN ARCHITECTURAL STYLE OF THIS AREA.

COURTYARD
VAKHERA, VISHWABHARO, PRIVACY
MULTIPLE LAYERS OF COURTYARDS

ORGANIC GROWTH-PATTERN
LEVELS OF TERRACES



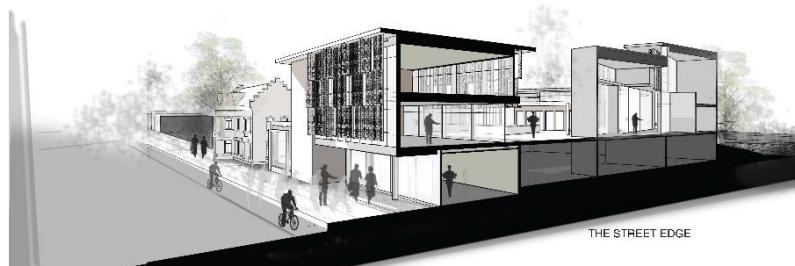
CULTURAL INFLUENCE

CURRENT CULTURAL EVENTS THROUGH OUT THE YEAR IN BANGLADESH

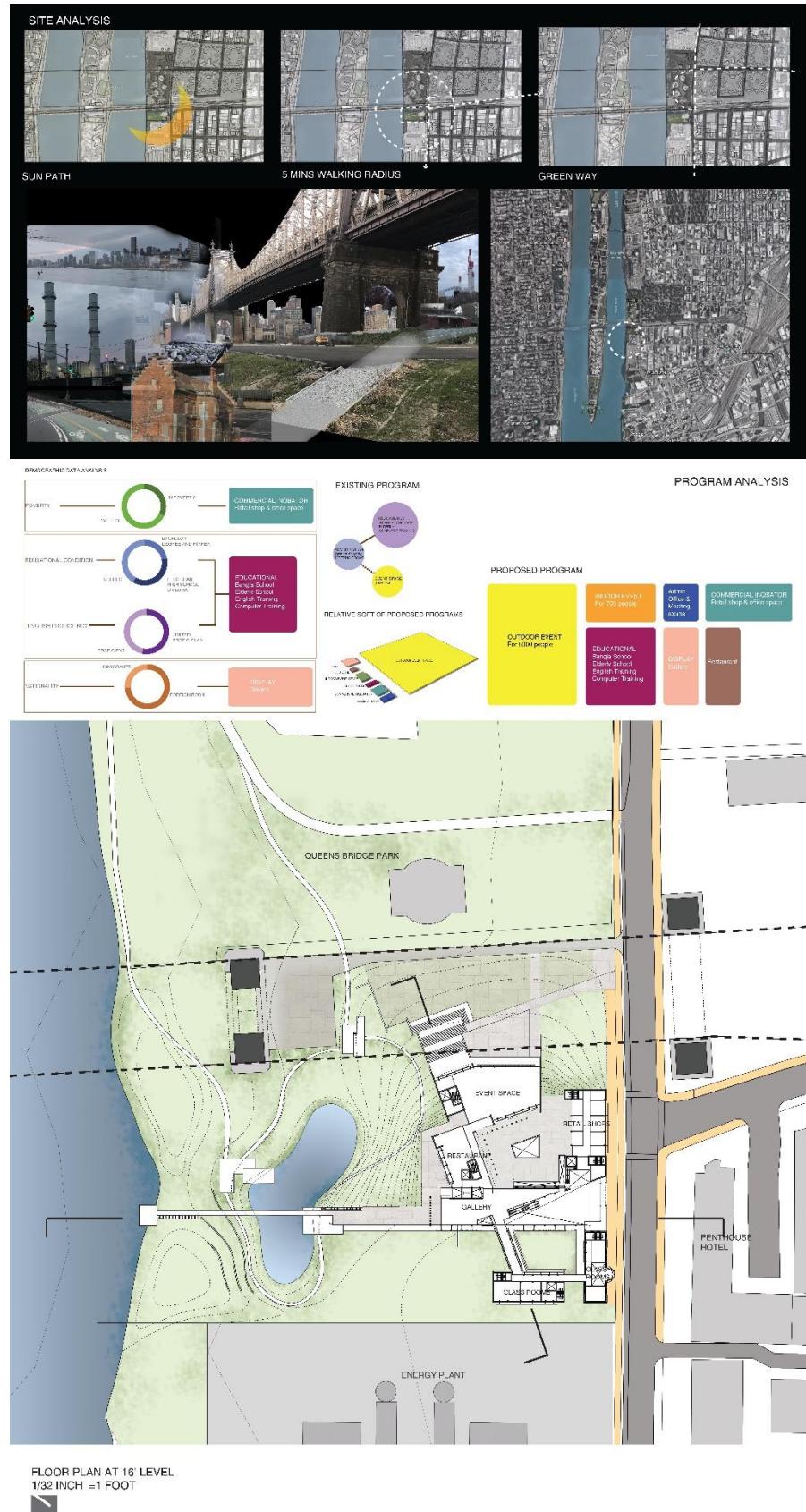


Month-long National Book Fair 13th February 1st Day of Spring 21st February International Mother Language Day
January February March April May June July August September October November December

26th March 14th April
Independent Day of Bangladesh Bengali New Year



Board 2:

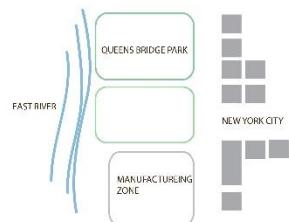


Board 3:

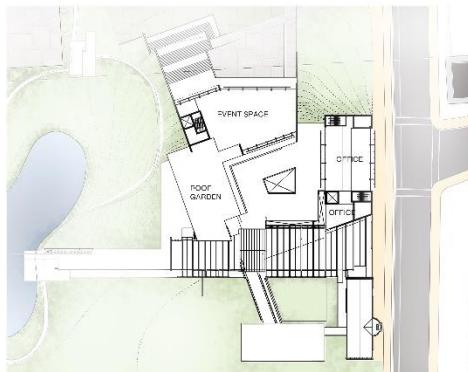
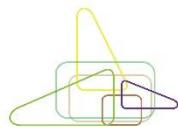
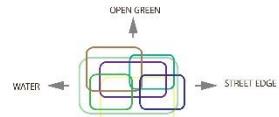


INTERIOR OF THE GALLERY

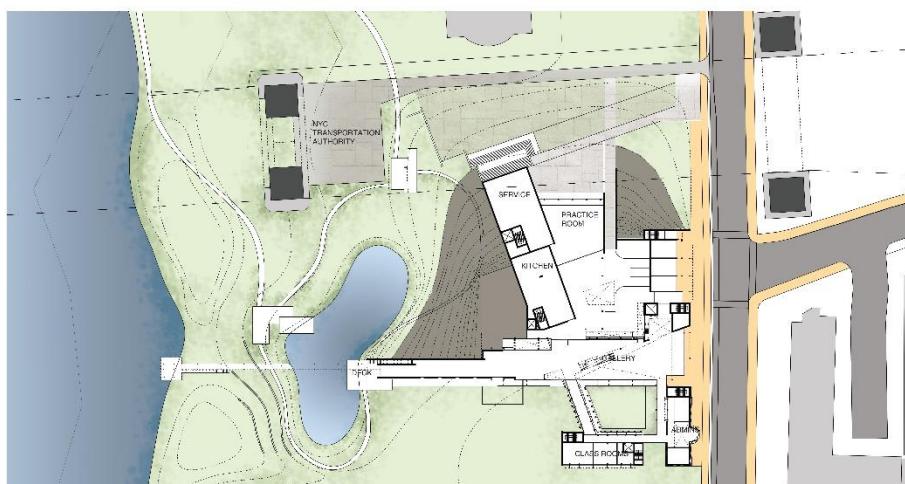
SITE RESPONSES



PROPOSED PROGRAM

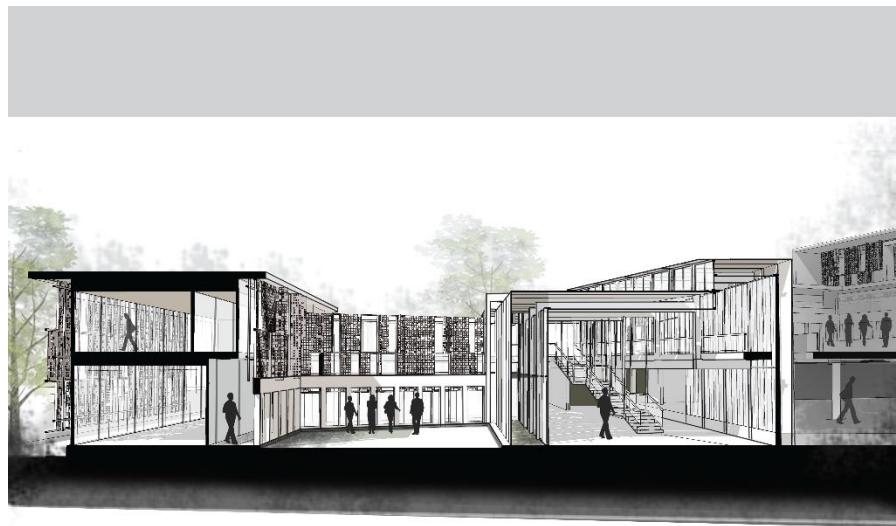


FLOOR PLAN AT 26'

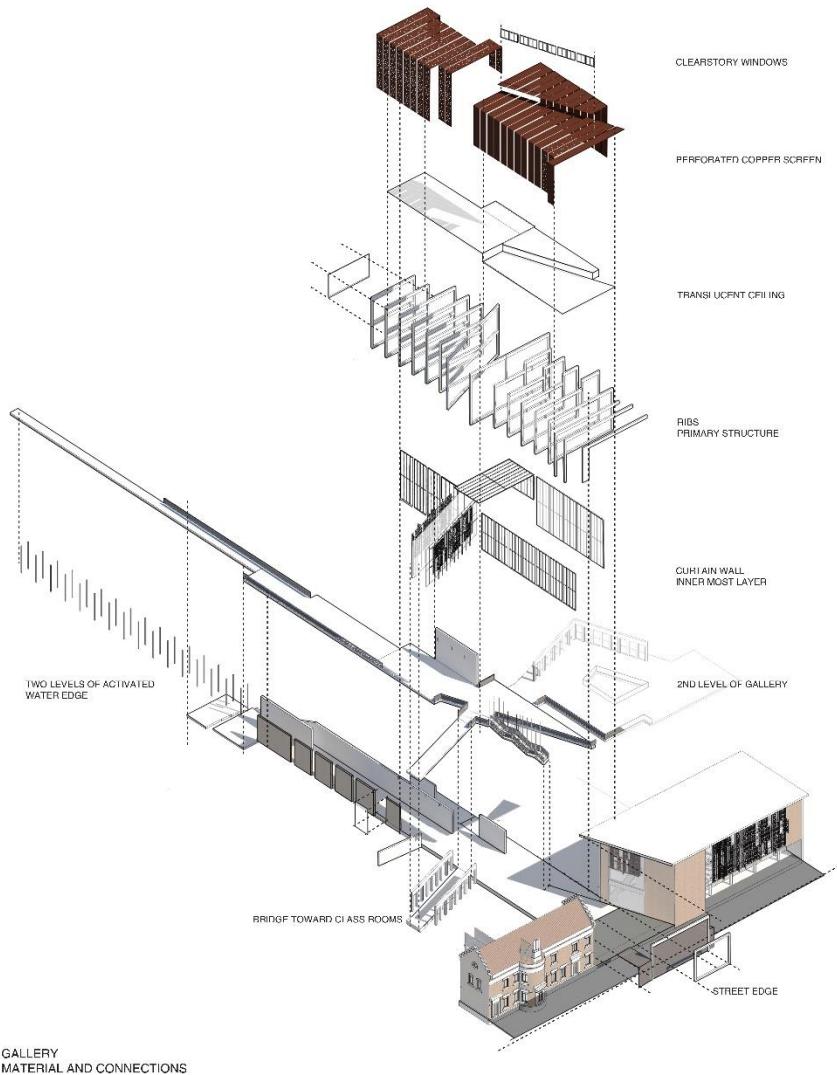


FLOOR PLAN AT 2'

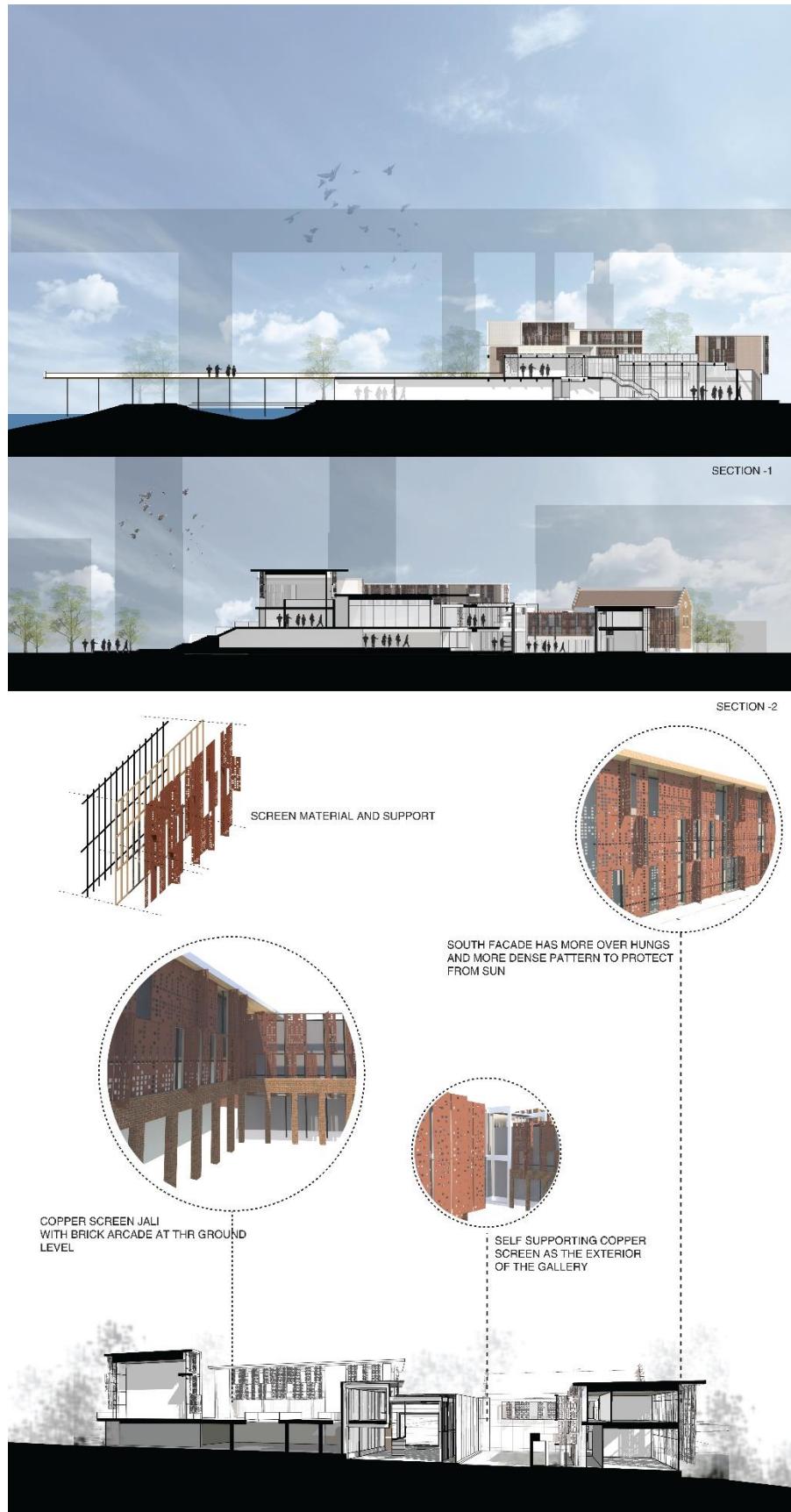
Board 4:



INTERACTIVE COURTYARD



Board 5:



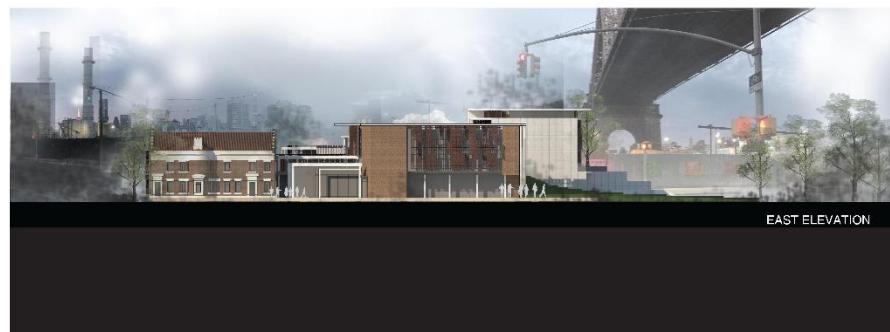
Board 6:



CONNECTION WITH THE PARK AND WATER

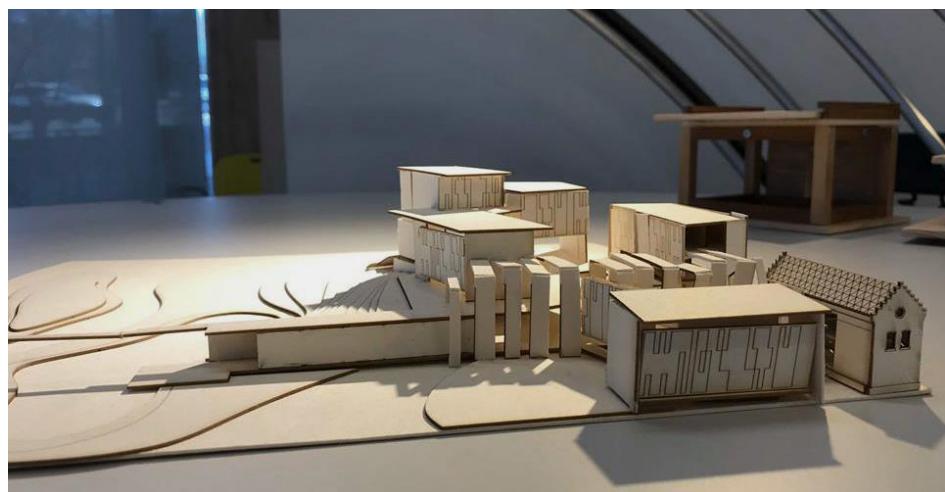


NORTH ELEVATION



EAST ELEVATION

Model pictures taken with the solar orientation on a lighting-study table.



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