

Reflection

LIVING IN A GAME

A Child-Centric Community for Urban Poor Children in Sylhet, Bangladesh

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Global Housing Graduation Studio
Architecture of Transition: In the Bangladesh Delta

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01 Introduction

1.1 Research topic

In the past several decades, urbanization has influenced Bangladesh and brought a massive population growth in urban areas, therefore, a large number of urban population is now living in poverty (so-called the ‘urban poor’), lacking the basic living conditions. Additionally, Bangladesh has a relatively young society, where children and youth make up a large proportion. However, growing up in an ‘urban poor’ family negatively impacts their well-being, so children are one of the most vulnerable groups within the ‘urban poor’, and this problem leads to the research question:

How can design help to build a child-centric community for urban poor children in Bangladesh?

1.2 Context and design goal

With this research question, the first goal of the design is to create a child-centric living environment adapting to the context of Bangladesh. Moreover, since the site is along the Surma river, next to the Keane bridge (a landmark of Sylhet), the second aim is to develop a new city image for Sylhet. Furthermore, there are now two religious groups living on the site, including 20 Hindu families (working as sweepers for City Corporation) and 200 Muslim families, and if developing a new project, higher income groups will be also introduced, so the other aim is to find a balanced way to accommodate different social groups.

1.3 Design project

The final design proposal is a residential zone with the plot area of 18500 square meters, including eight residential clusters and other amenities (school, community center, shops, parks etc.), aiming to provide a comfortable living environment for the residents and at the same time, contribute to the improvement of the urban landscape. The residential clusters are in the form of two towers on top of the courtyard block, with the ground floor for public functions, the first and second floors for low-income groups, and from the third floor above for middle-income group (figure 1). In addition, spaces for children are designed on different scales to meet the needs of children with different identities.

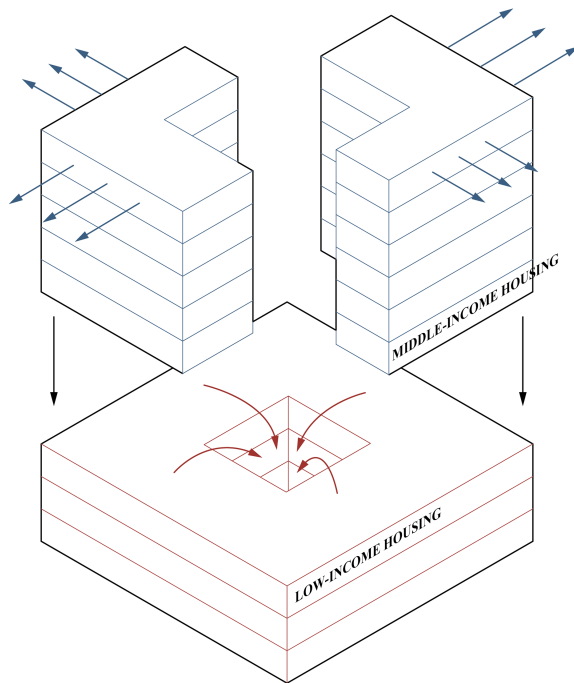


Figure 1: Design concept diagram (drawn by author)

02 _ Position of the topic in master track and program

What is the relation between your graduation project topic, your master track (A, U, BT, LA, MBE), and your master programme (MSc AUBS)?

As mentioned in the introduction, my graduation project topic focuses on the urban poor children in Bangladesh, since it is an affordable housing project, what I am doing is to make a housing project child-centric in addition to a comfortable living environment. The project is mainly considered on three scales, which make the topic also relevant to other tracks in the program. For example, on the largest scale, the project looks at each single dwelling unit and the building technology used to construct it, while on the middle scale, where architectural features are elaborated more, it examines the possible way to combine the units into a cluster, and finally on the urban scale, the urban surroundings and landscape (especially the riverside) are also important components of the project. Thus, the topic on the one hand has a humanized perspective by understanding and analyzing the daily routine and living area of a group of people, but on the other hand, may end up broadly to ensure the rational position of the project in the city.

03_Assessment of working approaches

How do you assess the value of your way of working (your approach, your used methods, used methodology)?

In terms of the research methodology and methods, there are three stages included in the research process, namely data collection, data analysis and precedent study. In data collection stage, fieldwork on the site and literature review were used to get first-hand experiences and objective information respectively, and thereafter, the collection of the information was then analyzed conceptually and graphically, to form a 'knowledge base' for the transition to the design. Simultaneously, cases with similar topics or in similar context were examined as well to enrich this knowledge base, where more concrete and specific design approaches can be found.

After the preparation and understanding the background through research, in the design phase, I firstly prioritized the design of housing, and then tried to return back to the topic to see the possibility of integration. In both process, I thought about the design from different scales. After this, I considered the environmental and technical part, focusing on the balance between affordability and sustainability, where the passive environmental strategies are integrated into the low-tech building construction.

With these approaches (figure 2), at first the design may seem fragmented because of the separate consideration on different aspects, but after a while, I do see the project being defined and refined step by step, and finally become an integrity. Hence, I would evaluate the approaches used in the graduation studio positive and feasible.

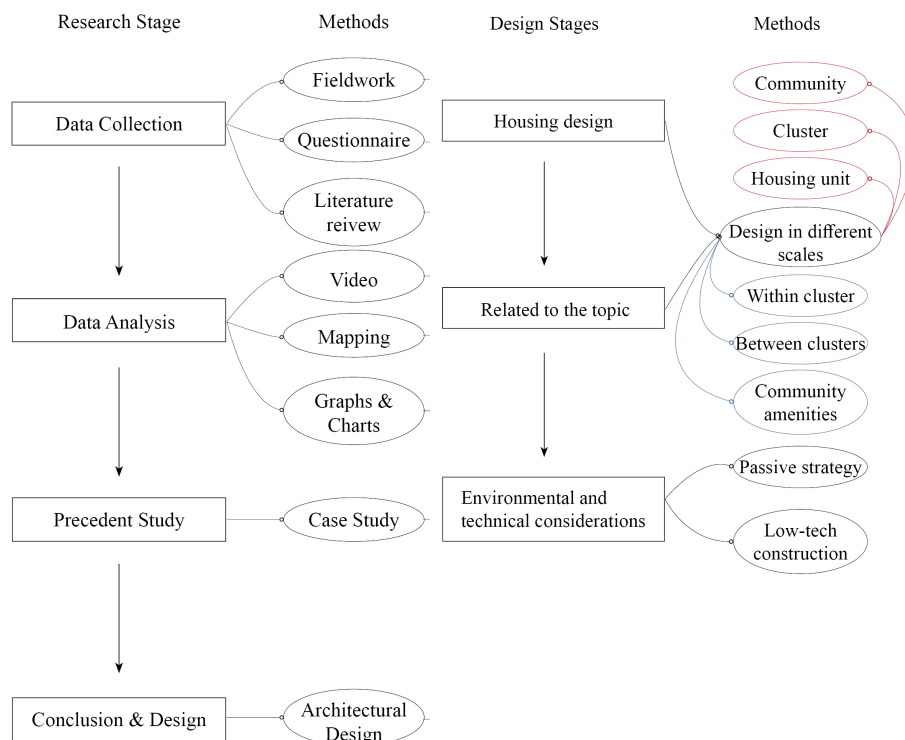


Figure 2: Approach diagram (drawn by author)

04_ Interrelationship between research and design

How did your research influence your design and how did the design influence your research?

The research and design of the graduation studio is an iterative process for me, so in every step of improvement, research and design are complemented and alternated with each other. In the answer to the previous question, the working approaches of research and design are discussed according to the time course, but the whole process can be also divided based on the research subtopics. In general, there are three stages, exploring children's living, ways of living in Bangladesh and environmental strategies (figure 3).

After determining the research question, the first part of (theoretical) research was about children's living. From the research, the spaces needed by children in different age groups, gender and economic groups were concluded, and I tried to integrate these conclusions into the design, but at that moment, I saw my understanding on the context of the site was missing, which made the design proposal not convincing, so I then started the research on the ways of living in Bangladesh, mainly through case studies. This research leads to a design result of different dwelling units for low and middle income groups as well as the form of the cluster. After confirming the general idea of cluster, for further refinement, I did research on more technical aspects such as climate, commonly used environmental strategies and material in that specific context. The results were reflected on the façade design and materiality. Besides these three points, there are also several 'failed trials' in transferring the research results into design, but those are also helpful in shaping my own understanding on the context and the project. Hence, design and research in my process are always mutual influenced, as the design applies the research results and at the same time opens a new direction for the next research phase.



Figure 3: Research and design result of space for children (drawn by author)

05_Value and relevance

How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

The value of this graduation project covers three main aspects, in academic research, social and cultural relevance and economic and environmental impact. The issue of urban poor children focused by the project is urgent in Bangladesh and other third world countries, which has existed for years but still not effectively addressed, so it needs more attention in both academia and practices. The project as an example, proposes a possible solution, but more importantly, aims to arouse more thoughts from the public on this issue.

In terms of the cultural and social value, in the project, the living patterns and living spaces of local people are studied in research and reflected in different forms in design to preserve the collective memory. For instance, the form of courtyard for low-income housing is to keep the community-based lifestyle, while the middle-income housing is outward-facing and has separate circulation to satisfy their requirement on privacy (figure 4). The functions and spaces inside a dwelling unit are determined according to the existing houses on the site. Additionally, bamboo, as the main structure of the existing houses are partially used for the façade of new clusters, by adding a new function, planting, to it.

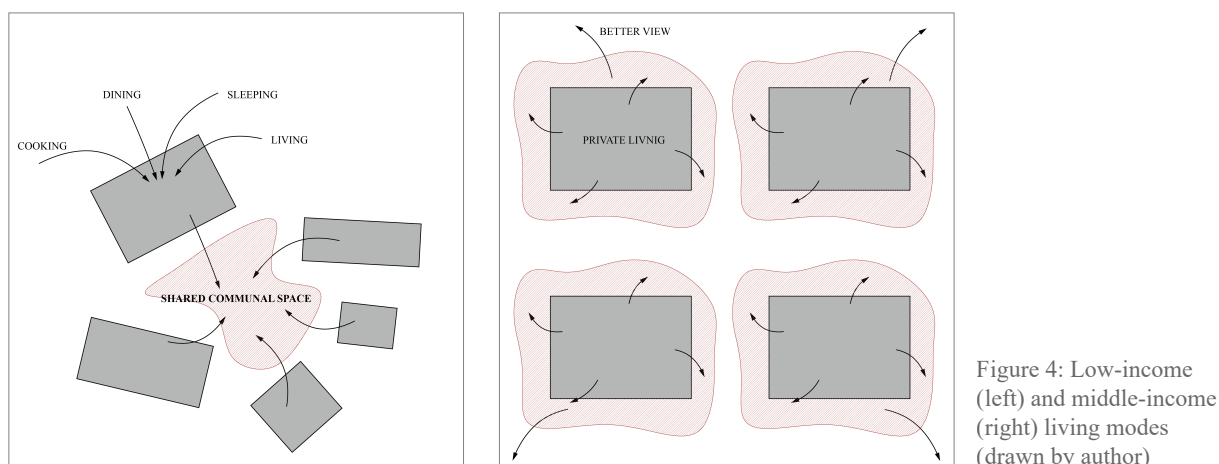


Figure 4: Low-income (left) and middle-income (right) living modes (drawn by author)

Considering economic aspect, a financial model is set up based on existing funding modes to enhance the practicality of the project (figure 5). Moreover, concrete frame structure with brick infill is used as the main structure due to the availability and durability of these materials in that specific context. Environmentally speaking, the project has strategies to increase climate resilience. The orientation and depth of the brick fins on each façade are carefully designed to protect housing from direct sunshine and rainfall, and natural ventilation is maintained in cluster and each dwelling unit. A water storage and treatment system is designed and applied in every cluster, collecting and reusing the rainwater and grey water, which may help especially during monsoon seasons.

	Land	Design	Construction	Dwelling units	Other responsibility
City Corporation	Ownership	Issue the building permits	Supervision & regulation	ownership of low-income housing (40% of total units)	Development and renovation of public amenities (park, school etc.)
Developer	Pay for the land at 25% of market price	Pay for architectural design of both low-income and middle-income housing	Pay for the construction of the whole project (with materials in different prices for LIH and MIH)	ownership of middle-income housing (60% of total units)	Maintenance of the project

Figure 5: stakeholder and financing analysis for the project (drawn by author)

06_Transferability

How do you assess the value of the transferability of your project results?

The project results have a relatively positive potential in transferability. Although the situation varies from country to country, both the housing shortage and children issue are global topics, so the solutions to them are highly demanded. Secondly, these problems could be more acute in economically vulnerable areas, so the low-tech construction of this project can be effective in saving construction costs and adapting to these areas. Thirdly, the project has several environmental strategies for hot and humid climate in Bangladesh, which can be transferred to the areas with similar climate as well.

07_Reflection question(s)

1 How do you assess the balance between keeping the lifestyle and the pursuit of efficiency?

2 How do you perceive the situation and value of this project in ten or more years?

08_The next step (P5)

In terms of the design, till this point, the general concept has been realized in urban, cluster and unit scales, so in the coming weeks, there might be only some small adjustments in design, but I need to find a more proper way of representation to communicate the project and the whole process.