

Reflection

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Introduction

This research started on the premise of urgent challenges faced in many places in the world, taking Bangladesh as its subject. These include rapid urbanisation, the formation of informal settlements, the lack of affordable housing, floods, and other consequences of climate change. These economic and environmental vulnerabilities motivate me to set out solutions for Bangladesh's lower-income classes. Rather than imposing entirely new housing models, I was inspired by the potential of incremental housing strategies that empower residents to build and adapt their homes over time. These incremental housing schemes are proven to work by the literature and also have their roots in this part of the world.

By combining proven strategies from past incremental housing projects with tailored flood-resilient adaptations, this project seeks to create context-specific, affordable housing solutions that can truly make a difference in Sylhet, Bangladesh. This approach aligns with my personal belief in architecture as a tool for social impact, bridging design innovation with the lived realities of vulnerable populations.

The approach

I approached the research by looking into the mechanics of incremental housing projects. Through case studies, literature and interviews, I developed a deep understanding of incremental housing strategies on architectural design (construction method, unit dimensions, typology, materialisation), urban design (plot dimensions, urban layout, typology), and management (finance, strategy, stakeholders). I researched flood-resilience through literature and studying local and vernacular building techniques. This also ties in with the contextual research, where the site visit and interviews on-site helped understand the way of living and building in Bangladesh.

My project combined these aspects to develop a design that brings all these criteria together. The approach worked, since I am confident my project, when carried out, will provide the change and solutions needed for its context. The research led to a better understanding of architecture and housing can help people escape poverty, as well as standing up against the climate-induced issues of the area.

The feedback of my mentors Marina Tabassum, Rohan Varma, Rocio Conesa Sánchez and Frederique van Andel helped to further develop my project. Through their local expertise on building in Bangladesh, incremental housing, the way of life, building techniques and research on incremental housing, I am confident my project has a high chance of succeeding in Bangladesh. The feedback sessions also helped point out weaknesses of the project I did not see at first glance, helping me solve the design. This meant that through this year of extensive research and design, I have learned more on the aspects of good architectural and urban design, as well as cost-effectiveness and bringing up an understanding for the housing market in different global settings.

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

My graduation project aligns with the Architecture track of the MSc Architecture, Urbanism & Building Sciences by addressing the design of affordable, adaptable, and flood-resilient housing. As in my project, the architecture master's programme of the TU Delft aims to provide solutions to architectural interventions that respond to global spatial, social, and environmental challenges. Additionally, by focusing on housing as a dynamic process rather than a static product, qualitative urban design, managerial strategies, landscaping and building technology, the project reflects all parts of the MSc AUBS. Furthermore, it resonates with the Global Housing studio's themes of inclusivity, context-specificity, and resilience.

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

My research laid the foundation for the project by systematically analysing incremental housing projects from the past and assessing flood-resilient design measures applicable to Bangladesh. This informed critical decisions on architectural design (unit size, typology), structural systems (such as raised plinths, material choice) and urban layout (courtyard typologies, cluster, sequences of spaces). Paired with the literature and design guidelines of Charles Correa and Alejandro Aravena, my project had clear guidelines for its design and management.

Conversely, the iterative process of design brought forward practical challenges that further refined my research focus. For example, choices on material availability, strengths and the desired typology meant I had to further research these aspects. The research and design constantly fed into each other, leading to a coherent and context-sensitive proposal.

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

My approach combined research by design, case study analysis, literature studies, and on-site research, which proved valuable in tackling the project's complexity. Research by design allowed for testing hypotheses in spatial and structural terms, while case studies and literature provided concrete lessons on governance, participation, and typology. The site visit helped ground the project in Sylhet's unique environmental and social conditions.

The methodology was effective because it balanced academic rigour with design pragmatism. For instance, I often found the simplest solutions are best, but one has to analyse many options to get to these seemingly 'simple' solutions. This way of working enabled me to remain flexible, adapt to new insights, and maintain coherence between the theoretical framework and design interventions.

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

Academically, the project contributes to the discourse on how incremental housing strategies can be updated for site-specific design and contemporary climate resilience, particularly in the Global South. It bridges a gap between architectural theory (incrementality, housing as a verb) and the pressing reality of flood-prone urbanisation in Bangladesh.

Societally, the project aims to empower low-income communities by providing a scalable and adaptable housing model that acknowledges their agency while ensuring safety and dignity. It also addresses issues of equity by making deliberate design choices that enhance affordability

and accessibility. Ethically, in incremental housing, there could be a debate about what is the minimum that one provides. Additionally, even the cheapest forms of housing could still be inaccessible to the poorest of the poor, depending on the local policies and funding methods.

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

While the design is grounded in the context of Sylhet, the core principles of affordable housing, incrementality, and flood-resilience are highly transferable to other flood-prone and resource-constrained contexts in the Global South, some even globally. The methodology of combining context-specific research with adaptable design strategies can serve as a model for architects and urban planners facing similar challenges elsewhere. However, successful transferability would require contextual research to respect local materials, governance structures, and socio-economic dynamics.

Own additional reflective questions:

Reflecting, what would be the main hazards for an incremental housing project like this one to come to life?

As the literature has pointed out, incremental housing strategies succeed or fail depending on the management. Historically, good incremental housing projects have also failed by being evaluated and deemed a failure after not having let it grow for a sufficient amount of time. Changes in subsidy through changes in local or national politics have seen incremental housing projects been cut off. Also, not having participative sessions with the future residents, failure to keep security of land tenure, or an exploding capitalist market where prices quadruple are factors every design should try and tackle as much as they can. Unfortunately, factors such as politics are out of our hands as architects, urbanists and managers.

As incremental housing is not as popular as a solution today, compared to second half of the last century, how does my project provide a viable solution that could revive the interest in incremental housing?

By researching incremental housing strategies that were successful in the past and taking these elements into a new framework, incremental housing can be made site-specific to fit more sites than traditional incremental sites and services programmes. Instead of an empty slate of land or a tabula rasa, my project proves that incremental housing strategies can provide mass affordable housing in smaller, site-specific contexts.

Conclusion

Looking back, I am satisfied with the outcome of my project so far. The project solves the main issues it addresses and provides a promising framework for similar contexts in the Global South. Personally, I found the project challenging. The project is demanding, since I had to place myself in a different context than the one I am used to (even though I have done other projects in the Global South before). The harsh circumstances of life in Bangladesh, as seen on the site visit, were also impactful, but moreover functioned as a motivation to make a valuable contribution to the existing research, to help improve the lives of those affected by climate change and living in poverty. These lessons are valuable, also outside of Bangladesh, and provide me with an understanding of complex projects that will be useful for the rest of my career and personal life in and outside of the built environment.