

Project Motivation - the How and Why

Rural-urban migration has brought new opportunities but also significant challenges to Bangladesh. Attaining lower-middle income status in 2014 (World Bank, 2022) as well as its imminent graduation from the UN list of least developed countries (LDCs) in 2026 (United Nations, 2021) are significant markers of progress for the country. They suggest that at least in economic terms, urbanisation has benefited Bangladesh.

However, the country also faces clear and present challenges from urbanisation. Whereas rural societies have handed down the skills for people to construct their own homes and shape their surroundings for themselves, modern cities rely on new materials and construction techniques, that require different skills and training to master. At the same time many of the jobs on offer in urban areas are of a different nature to those in agricultural areas. Often they do not require manual labour skills.

Thus while modern construction is becoming more reliant on technology and specialised skillsets the knowledge of traditional construction techniques is simultaneously being lost.

A survey by the Commonwealth Association of Architects (CAA) shows that in Bangladesh there is only one trained architect per 50,000 of the population (CAA, 2018, p.19), with only Uganda having a significantly lower figure among the 15 countries surveyed.

My research aims at addressing the skills shortage that has taken place as part of the urbanisation trend, by seeking to preserve traditional knowledge that allowed people to build for themselves in combination with modern techniques better suited to dense urban environments and modern economies.

Response to Feedback and Personal Learning

Feedback from my design, research and building technology mentors as well as visiting professors and guest critics has helped to greatly enrich my research and pointed me towards new sources of learning. During the drafting phase of the research thesis the formulation of a theoretical framework helped me to define the parameters within which my design hypothesis can be tested and evaluated. Through feedback I was able to better define the scope of my research, with an emphasis on applicability to context of Bangladesh, which is the focus of this year's studio.

Adaptation Based on Feedback

Through feedback I was able to guide the research towards better practical applicability in the study context.

The theory behind my research drawn from "A Pattern Language" and other works by Christopher Alexander could be brought into the specific context of Sylhet in Bangladesh through the application of ethnographic survey techniques performed in-field and through evaluation of literature on rural traditions and the contemporary construction industry in Bangladesh.

Applying the background theory of the research to the context of Bangladesh with an eye towards practical application in the studio design project helped to structure both the design and research proposal. It became clear that the practical application of Pattern Theory to the urban context in Bangladesh required specific adaptations and this was facilitated through additional avenues of research suggested by my mentors such as Stewart Brand's concept of "Shearing Layers of Change".

Continued Learning

Throughout the research process I have had opportunities to learn. In particular performing in-field research helped me to better understand the value of first-hand observation and direct source material as well as ethnography as a tool to inform design. Architectural theory, even when backed by science, can easily go astray when it does not consider the people for whom the architecture is ultimately made. And the understanding of people and societies is complex and nuanced (as almost nothing else!).

Relation to the Studio Topic and Master Track

My graduation topic deals with the theme of housing for deprived communities and an approach to empowering communities to build for themselves while ensuring modern quantitative and qualitative standards. It seeks to address the gap between supply of skilled design professionals and public demand for quality housing, by proposing an intermediary system, a design language that can empower both the professional and the lay person. It does this through an understanding that the design of a quality built environment for a community is an ongoing process, a continual 'transition', that can not be captured through static descriptive programs (such as drawings or models of a 'final' outcome) alone, but only by generative programs. As such it deals with a problem that is central to the challenge of building good housing in many, many communities globally as well as the theme of 'Architecture of

Transition'.

Furthermore it is necessarily relevant to my master track Architecture as it deals with the construction of buildings and the built environment and involves concrete building proposals.

Interaction between Research and Design

Due to the political unrest in Bangladesh, the study trip was delayed until December 2024. This meant that we were tasked with developing our research proposals before being able to experience the culture and environment of Bangladesh first-hand. This had disadvantages but also some advantages. It heightened the contrast between theory and in-field research such that we could more clearly appraise the value of each. For instance my design approach, driven by research of the rural context and tradition, and without first-hand experience of the urban situation in Dhaka and Sylhet, needed to be adjusted based on this experience. The density of the urban fabric and the extreme situations many impoverished communities face in cities demanded a different approach. In this sense the design and its specific urban context influenced the research. At the same time, the initial research focus helped to inform the design and perhaps an earlier experience of the urban context would have suggested a different direction for the research at the outset. Thus the choice of research topic at the outset helped to inform and adapt the situated design.

Relevance in the larger social, professional and scientific framework

My work seeks to empower communities to build for themselves with design professionals in a supportive and collaborative role rather than in a dictatorial position. As such it acknowledges the agency of the people and respects their social values and norms, proposing that the end user usually has the best idea of the kind of built environment that suits them. It explores what the role of the professional in the construction of housing is, and should be, and the proper relation to the end user. Finally it proposes a systematic approach to address the challenge of building for the greater number, based on a theoretical framework. By seeking a systematic approach and formulating hypotheses based on theory, it moves the discussion further into the field of testability, which is the proper domain of science.

Transferability of Results

In the opinion of the researcher, a Pattern Theory based approach

to the challenge of building for the greater number in urban environments is a highly transferable and adaptable methodology. Indeed, the methodology can be (and has been) successfully applied not only in the field of architectural design but also in other design fields such as software engineering. However, the construction of a set of patterns as part of this research has focused on the specific culture and context of Bangladesh. Within this context the research findings are transferable. The advantage of this approach is that the 'language' based on the patterns benefits from wider application: it can be updated, corrected and adapted as it is more widely applied and each time this occurs it adds to the body of knowledge for future users.

Further Questions

Can a Pattern based approach address the challenge faced in rapidly urbanising societies, of needing to meet the demand for housing while lacking skilled professionals?

A pattern based approach to design places design solutions in the hands of the people, it is accessible to anyone who can read and can access the relevant pattern book physically or online. It is a peer-to-peer system in that any user of the patterns can suggest changes to patterns or additions to the list which if approved by his or her peers can enter into the language and benefit other users, both present and future. Furthermore it gives a communication tool to design professionals so they can more easily discuss designs with lay people. It can free up professionals to deal with more complex design challenges while more standard design solutions are codified in the pattern language.

What are the pitfalls of a Pattern based design approach?

The quality of the design based on a pattern language depends on the quality of the patterns and the language that they describe. Without pre-existing design expertise it is difficult to start a pattern language from scratch. As such, the loss of traditional techniques and design skills that has taken place through rapid urbanisation in Bangladesh remains a serious challenge that the use of pattern languages in and of itself does not address. However it does help to codify knowledge which still exists, helping to preserve it for the future.