Graduation Plan: Architecture

Personal information:
Name: Rohan Varma
Student Number: 4188659
Address: 260 Feldmannweg
Postal Code: 2628 KX
Place of residence: Delft
Telephone Number: +31 630868514
Email address: rohanvarma86@gmail.com
r.varma@tudelft.nl

Studio:
Theme: Explore Lab
Teachers: Robert Nottrot, John Heintz
Argumentation of choice of studio: One of the main reasons I chose to pursue my graduation thesis project in Explore Lab is because it allowed me to frame my own thesis topic. This was a crucial deciding factor, as I wanted to base my project in my hometown of Mumbai, and thereby address some of the pressing issues of housing and urbanization that are confronting the city today.

Title:
Title of the graduation project: Blurring the Boundaries: Integrating the formal and informal in Mumbai

Product
Problem Statement:
Cities across the world - and especially the cities of the Global South are growing at a feverish pace. According to a recent study by the United Nations, the year 2008 marked an important event in human history, where for the first time, the world’s urban population passed its rural population. Moreover, all evidence suggests that in between now and the year 2050, the world’s population is expected to increase by more than 2.5 billion, where most of this growth will take place in the cities of developing countries such as India, China, and the many countries of Africa. India alone will register an additional 600 million people in its cities by the year 2050, taking its total urban population to about 900 million people (still only 50 percent of its total population). Of course, this rapid urbanization, and shift from rural to urban societies brings with it several challenges. The most visible effect of this growth has been the explosion of informal settlements, which house more than 1 billion people across the world today. With this number set to triple by the year 2050, my project will attempt to address the issue of the role of architecture and design in addressing growing informal urbanization and its effects of socio-spatial fragmentation.

The project based in my hometown of Mumbai, and under the guidance of Prof. Dick van Gameren, will attempt to explore the uneasy relationship between the formal and the informal in Mumbai, and the
lack of affordable housing in the city. Economic liberalization in the early 1990s, and rapid urbanization over the past couple of decades, have resulted in a city where more than half the population is currently living in informal settlements (about 10 million people). Moreover, due to its geography as an island city bound by water, many of these pockets of informality exist in very close proximity to the formal parts of the city, that give rise a bizarre set of adjacencies that are unfortunately becoming the defining characteristics of the growing economic, social and spatial divide between the rich and the poor in urban India.

The problem is further compounded by the current model of affordable housing in the city, which fails to acknowledge slums as places of intense commerce and production, that require a typological exploration on designs that could house these populations. Instead, the Slum Rehabilitation Scheme (a concept introduced in 1995 that re-houses slums on existing plots in exchange for higher construction rights for the private developer which could be sold in the open market) treats informal settlements solely as a land centric problem where the emphasis is to maximize profits for the state and the private developer. As a result of this, a majority of these schemes have ended up destroying the livelihoods of thousands of slum dwellers whose networks of commerce and employment are broken in the standardized, inflexible buildings built under the pretext of ‘affordable housing’. Furthermore, they aggregate the problem by excluding a very vast majority of the city’s population from the services, amenities and opportunities that lie in the formal city. In such a context, my thesis will research and attempt to understand the vital socioeconomic relationship that exists between the two, and by learning from previous examples, it will arrive at a model of affordable housing and a series of design strategies by which one could blur the boundaries between the two worlds.

**Project Goal:**

My project locates itself on a very vital stretch of land in South Mumbai, which houses not only the city’s financial district, but also a very large population living in informal settlements - representing perhaps the most extreme example of the schizophrenic relationship that exists between the formal and the informal in Mumbai. The main intention of the project will be to integrate this marginalized and segregated community within its larger urban fabric, through a revised model of affordable housing and a series of design strategies that could eventually become an alternate model or approach to the issue of informal urbanization in the city.

**Process**

**Method description:**

The thesis will be based on a strong theoretical framework that will be gained by doing intensive research, mapping and site analysis. The research will consist of two parts: The first aim will be to understand informal urbanization as a worldwide phenomenon. The second part will consist of understanding and mapping Mumbai’s growth over time in order to understand the growth and reasons for informalization in the city. Through a number of case studies, I will also analyse the various approaches to informal urbanization or slum upgrading that have been adopted over time in different countries and contexts. Site analysis and mapping will also play a very important role in shaping my design strategies. As the site is based in Mumbai, I will travel to the city after my P2 presentation to conduct whatever research or mapping I may need that is not possible with the help of satellite imagery and/or data available online. Moreover, this trip will give me the opportunity to meet local inhabitants, practitioners and citizens who I intend to interview in order for me to formulate my design strategies.
Literature:

Over the length of my thesis I will be referring to the following papers and books:

Books/Articles on Informality (worldwide):


Books/Articles on Mumbai and its urbanization:


Reflection

Relevance:

I believe that my project could have a life beyond pure academic work, and could eventually join the current debate about informal urbanization in Mumbai. In this sense, I hope to use the time available to me here at Explore Lab to come up with a viable and practical alternative to the current model of dealing with informal urbanization in the city.
Time Planning:

01.09.12 - 15.09.12: Framing the Thesis topic and undertaking initial research.

16.09.12 - 30.09.12: Research: Initial readings of informal urbanization (worldwide studies) & choosing design and research mentors.

01.10.12 - 15.09.12: Research: Mapping Mumbai’s growth over time.

16.10.12 - 26.10.12: **P1 Presentation:** Presenting initial research, conclusions and introduction to the site. Framing the Project Goal and Research Goals.

26.10.12 - 15.11.12: Research: Affordable housing models over time.


01.01.13 - 17.01.13: **P2 Presentation:** Drawing conclusions from Research, site analysis and mapping along with initial sketches and diagrams.

17.01.13 - 31.01.13: Mumbai Site Visit: Mapping, data collections, interviews and photographs.

01.02.13 - 15.02.13: Mumbai Site Visit: Mapping, data collections, interviews and photographs.


01.03.13 - 15.03.13: Design exploration, development of design strategies, and focus on technical issues and details. Finishing Research Paper.

16.03.13 - 30.03.13: **P3 Presentation:** Presentation of sketches, plans and sections and overall design strategies.

01.04.13 - 15.04.13: Development of design. Detailing Overall scheme, along with detailed plans, and physical models.


01.05.13 - 15.05.13: Design detailing: Plans, sections, elevations, axonometrics, as well as physical models.

16.05.13 - 30.05.13: **P4 Presentation:** Presentation of final scheme. Detailed Plans, sections, elevations and architectural details (material and construction).

01.06.13 - 15.06.13: Finalizing material for final P5 presentation.

16.06.13 - 30.06.13: **P5 Presentation:** Preparation for final presentation.

Attention:

Since my project deals with the issue of affordable housing, it will become important for me to explore different types of construction and materials (uses, costs, etc) under the guidance of my building technology mentor, Prof. Jan van de Voort.