

One of the cities where the rapid urbanisation of the global south is most eminent is Mumbai, the economic capital of India. Due to a rising economy over the last century millions of people migrated to the city. This urbanisation led to an enormous density and therefore prices of land exploded in the inner city. Due to its physical constraints – it is situated on a slender peninsula - the city expanded along its railway lines towards the north and east, creating new communities around its stations. One of these border communities is Nala Sopara, located in the Vasai-Virar area about 50km north of the central fort district of Mumbai.

Due to the affordable land Nala Sopara grew exponentially over the last two decades from a small village settlement to a city on itself with over a million inhabitants.

To release pressure from the hearth of the metropole the state government is planning new infrastructural corridors. As a result, a new trainline is planned to connect the Vasai Virar area with Navi Mumbai which crosses through the eastern part of Nala Sopara, an area which is characterized by an urban sprawl of low-rise structures called baithi chawls.

Due to the clear relation between public transport and densification in the city one can argue that the area through which this trainline crosses will drastically change, as it already did in Mumbai and the central part of Nala Sopara.

My project tries to offer an alternative to the existing schemes of densification in relation to infrastructure. It aims to be an inclusive and resilient strategy for mass affordable housing in contrast to the current market driven neoliberal approach, and furthermore tries to embed itself in the existing context and future infrastructural development.

Research and Design

The graduation studio is part of the Chair of Architecture and Dwelling, a department stooled much on the traditional analytical method of typological studies of important precedents. This method is based on the TU Delft ‘Plan Analysis’ where projects are precisely described by drawings of reduction, addition and demontage. The studio used this method for different important housing precedents both in a global scope and the context of Mumbai and Nala Sopara.

Next to that the notions of affordability and inclusion, which are imbedded in the main theme of the studio, have a close relation to the social aspect of architecture. We therefore conducted research on the socio-spatial practices of the population in Nala Sopara in a two-week site visit. We crossed the found knowledge with our initial typological research which served as an architectural framework wherein we could

position the social practices. This was called ‘the book of patterns’ and this result gave important clues not only for the initial problem statement and design hypothesis but also served as an important tool for later design decisions related to local building techniques and embedding social spaces in the project.

Furthermore the general context of Mumbai regarding housing policies, topographic, demographic, politic and historic aspects was studied. This gave important insights in the current housing conditions and that its defects are related to a higher complexity than just bad design. In my specific case the current way of densifying around public transport corridors, which gave me the motive for my research and design direction, is a result from neoliberal policies that encourage market driven excluding housing development.

For my project is operating in different scales I relate back to multiple elements that came out of these different research methods.

For the macro scales I found useful input by studying Soria y Mata and his ideas towards the linear city in which urbanization takes place along corridors. This idea was later refined and put into practice by Indian architect Charles Correa and his plan for Navi Mumbai, where he relies on multiple scales of public transport and urban fabric related to this. On the architectural scale I referred much to the existing conditions considering the socio-spatial practices, topography (lack of) social spaces and hierarchical system of roads. And for the building and materiality I looked at local building techniques and important (Indian) precedents that came forward out of the typological research.

By working on multiple scales trying to find a uniform solution I found that I gave myself a difficult puzzle to solve, and I struggled to reach the final state that my project is approaching. I feel that, next to the ambivalence of scales, my project endured a subconscious need for complexity that I can place within my student career as a whole. This complexity might not be the most fruitful in relation to the architecture of dwelling in which a certain rational and logical approach is needed. As a result, I had to compromise a lot between different conceptions and now reached a symbiosis of a lot of ideas, which is not necessarily the best solution for one of the different aspects I dealt with but can be seen more as a sum of all these ideas.

The relationship between the project, affordable housing in Mumbai and architecture

The urban growth of Mumbai is much related to the existing trainlines. The densification around infrastructural nodes is taking place in an excluding and dehumanizing way. To find an alternative as my main topic is therefore much related to the studios theme of inclusive affordable housing. Next to that it refers back to the historic and urban relevance of infrastructure and more specifically public transport for the city of Mumbai.

As mentioned before I had more difficulties to place my theme and approach in the general master track of architecture. Transit Oriented Development (TOD) is dealing with the build environment but the scale is much larger than that of architecture. The TOD precedents I studied operated more on an urban or even regional level and therefore lacked to give grasps for the refined scale that an architectural project demands. This scale was implemented by referring to the socio-spatial and typological research that was conducted and my concept was enriched by adding a hierarchy of social spaces in relation to the hierarchy of existing road networks. But as a result my project has a more ambiguous conception, which is tangible in the results.

To make an architectural project in relation to infrastructure on a regional scale which responds to an existing urban fabric and tries to improve life conditions in all aspects proved to be a lot to solve and one can even question if it is possible to answer all these problems within one graduation project.

Nevertheless, the project addresses multiple elements within these scales and challenges the existing schemes of rehabilitation of the urban poor.

Scientific Relevance

This studio was the first of three graduation projects on affordable housing in Mumbai from the Chair of Architecture and Dwelling. Therefore, the outcomes of the group research, can be placed as the start of an elaborate analysis on this specific site. I imagine that our pioneer work will be used by the later groups in their own research and give relevant knowledge and grasps in their projects.

The groups research and projects should also be seen as pioneer work for the specific site of Nala Sopara. Hardly any thorough research is done on this specific location, where Mumbai has been well covered either by literature and architectural analysis. This specific knowledge adds to the understanding of Nala Sopara as a

site but also serves as an exemplary case in terms of slum settlement, densification, vernacular architecture and socio-spatial inhabitation for the Metropolitan Mumbai Region and for the whole of (sub)urbanity in the global south. The research and outcome of the projects therefore give important value to the need for architects and urbanists to face the problems related to these aspects on a global scale.

Personally, it was very useful for me to understand these issues, since most of our study career is based in western and in my case even Dutch contexts. It is necessary to step back from the conventions you have learned in the past years in order to interpret a completely new area. The way of inquiry proposed by the studio is stooled on a strong tradition within the TU Delft and therefore was not completely new to me. The outcome and its relevance for my design proves that that inquiry is useful as a general methodological framework not related to a specific area and therefore empowers its applicability.

Furthermore, my project and its relation to infrastructure can be placed not merely in the specific context of this studio but has relevance on a global scale. Urbanization and migration in the global south have a strong connection to infrastructure due to the fact that the urban poor are highly depended on public transport. Many housing projects, such as the site and services scheme, have (partly) failed due to the remote location or lack of connection to job locations. My project can be seen as a case study in the theoretical framework considering TOD and also as a critique on the contemporary neoliberal approach amongst governments. In this wave highly privatized market driven developments give no humane and resilient solution on an architectural scale and let alone on an urban level.

Ethics

The cultural and physical distance between us as designers and the project in Mumbai not only enriched us as architects but also proved to be an obstacle both in practical and ethical terms.

It is hard to operate in an unknown context which you visit only once during the graduation process. This site visit was done at a moment in the process when we did not know yet which direction the design would follow. During the design phase afterwards, there were moments that I would have liked to be able to investigate certain areas better then was the case now. As an example, I want to give the fact that my final project location appeared to be on a hill. This was discovered very late in the process which has to do to the fact that certain software only then gave specific topographical information available. When able to revisit the final chosen area this condition would not have been a surprise. The underlying problem is that the given study and project area is too large and too far to understand its full complexity.

Furthermore, one can question the applicability of this cross-continental approach of social housing. You have to be weary that the connotations related to post colonialism are avoided which needs an understanding of local culture and policies far more sincere than is even possible to achieve within a graduation project. I argue that because the project stays within the liberty and constraints of the academic world it is valuable for the theoretical discourse and my development as an architect, but cannot act in the reality of Mumbai today. Not in the last place because the policies regarding social housing, as a main cause to the problems, lies out of the scope of architecture and therefore applicability of these projects without a political change is doubtful.