

P4 REFLECTION REPORT
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Today, nearly fifteen percent of the world's population lives in poverty in urban areas, of which the majority can be found in the Global South. This includes India, which has the second largest urban population in the world. An on-going process of urbanization has led to an increasing urban population of 109 million in 1971, to 377 million in 2011. Mumbai is India's largest city with an estimated population of 21 million people. Besides, with around 21.000 people per square kilometer, it is the most densely settled city in the world. Unfortunately, only 5 percent of the population can afford a house in the city of Mumbai, indicating that there is a mismatch between the households' stock and flow. This causes more than half of Mumbai's population living in informal settlements, such as slums and chawls, covering only 6 percent of the city's land. The inability of the government to provide sufficient formal, affordable housing to house Mumbai's growing population, has emerged as a serious crisis. With a still increasing urban population, the housing shortage is expected to reach 34.1 million units by 2022.

The Global Housing studio 'Mixing Mumbai: Affordable Housing for Inclusive Development' aims to rethink the current systems of affordable housing production. It focuses on the specific location of Nala Sopara, an area in the northern outskirts of Mumbai's metropolitan region. In general, two dwelling typologies can be found here. Baithi chawls are constructed out of brick and built by a local contractor. These ground storey buildings with pitched roofs consists of one room and are usually connected through a narrow community lane, which people use as an extension to their small houses. Densification developments of the past decades show that more and more of these low-rise baithi chawls are being replaced by mid-rise chawls. These ground floor plus four storey chawls consist of a series of one-room tenements, connected with each other by a communal corridor. In order to house the increasing population, the baithi chawls are demolished and replaced by the mid-rise version, whilst maintaining the original layout. Hereby, the five storey chawls are only separated by a narrow alley, causing the residents of the lower levels to lack access to daylight and ventilation, and enabling the higher residents to almost literally 'shake hands' with their neighbor.

This approach to provide more dwelling units to deal with the increasing demand for affordable housing is only focused on efficiency (building as much, as quickly and as cheaply possible) and totally ignores the aspects that improve the quality of life. It can be seen as a unilateral concentration on the densification development that disregards the understanding of how the built environment affects social sustainability. If this situation of replacement continues, a significant part of Nala Sopara will be threatened by and the disappearance of social sustainability, which can be detrimental to livability, health and urban well-being. This graduation studio challenged me to explore alternative solutions for these problems, and to develop an architectural project that uses design as a means to deal with the technical, social and spatial challenges of Mumbai's housing situation. Besides, it provided the opportunity to truly focus on the housing problems and human needs of people in a Global South country.

To me, architecture and designing a living environment does not only includes a building, but is most of all related to cultural, social, environmental, political and economic conditions.

Architecture can be seen as a practical approach to serve the needs of people. It goes beyond the field of the built environment as it affects the daily life of real people. Within the Chair of Architecture and Dwelling, research provides a method to gain a better understanding of the way people dwell. As a preparatory study for the field trip to Mumbai, literature research and mapping were used to investigate the political, technical, geographical and sociological context of the design location. As a group work, a collective knowledge base was constructed by gathering this data to provide us with the fundamental information for an efficient excursion to India. During this field trip, we visited a selection of housing projects throughout the city, varying from the informal settlements of Dharavi, the biggest slum of India, to the luxury apartments of Kanchanjunga. Especially the housing projects designed and built for the low-income group and the economically weaker section interested me, as the visit to these projects gave an exploratory impression of how people live there. Moreover, we visited the design location: Nala Sopara. Here, in-situ research was conducted, investigating the local characteristics of the site. Although the preparatory conducted information about the location contributed to a better understanding of the general situation, it soon became apparent that only by visiting and participating in the community of the very location, one can genuinely understand the cultural, social and environmental conditions. As fits the methodical line of inquiry of the Global Housing studio, visual ethnography was used to investigate these conditions. I used several visual techniques, among which photography and sketching, to learn and understand the complexity of the area. These ethnographic, visual methods as a means to investigate and depict the place, could capture complex narratives of the lived experience that were not, and could not have been, addressed through the course's previous study.

The differing conditions I experienced whilst being in the midst of the chawl redevelopment and densification processes have been very helpful in defining what problem I wanted to tackle in my project. It was already there, in Nala Sopara, that I realized I wanted to seek for an architectural solution that offers a higher density than can now be found in the baithi chawl area, without losing the social sustainability aspects as happened in the mid-rise chawls.

I believe that the preparatory research through literature studies and mapping has been an essential aspect of the course of the design process. However, the conducted (visual) ethnography enabled me to expose the visible and underlying information of the location, creating a frame of reference that served as the starting point for the design project.

During the weeks after the site visit, the processing of the collected information through pictures, interviews, sketches and general experience took place, creating a Book of Patterns. This helped me to identify the relationships between the housing typologies and patterns of inhabitation. Moreover, during the whole further process of designing, this valuable collected data functioned as a benchmark in defining architectural elements of space- and placemaking, and how they facilitate the everyday life of people. This was an important step in the relation between research and design and the methods I used to develop a housing scheme. The feedback given by the mentors reminded me not to forget I was designing a building for

people, and to use the book of patterns in order to realize how people would actually use and appropriate the spaces I was creating.

The cluster scheme I introduced could provide an alternative for the current densification processes. Not only considering the built mass and configuration of the dwellings, but also regarding building material. Currently, brick is the most commonly used building material in India. Meanwhile, bamboo is seen as 'poor man's timber'. In other words, bamboo has an undervalued status since it is always associated with the economically weaker section. Although my project is indeed meant for inhabitants with a low income, I think my project could serve to raise awareness of the possibilities of bamboo. In addition, it would be a great achievement when bamboo could be added as an official building material to the strict building regulations that apply to Mumbai.

The issue of the lack of affordable housing does not only apply to Mumbai. As the studio's name 'Global Housing' already indicates, the notion of rapid urbanization does not only take place in India, but in most of the Global South countries. Therefore, the research conducted in this academic context are generally applicable to these countries, which deal with comparable issues of overpopulation, urbanization and housing shortage. The Global Housing graduation studio challenges the students to think of different solutions for the housing problems. The research conducted as a group work could help to make people aware of these problems. It could contribute in highlighting the problem from a different point of view; that redevelopment and the supply of affordable housing is not only about making as much dwelling units as possible in the most efficient way, and that seeing it from the user's position is just as important. Most of all, changing the focus to integration at spatial, economical, political and social levels could lead to enable people to live very densely without negatively affecting the living quality.